

NEGOTIATING BOUNDARIES

Exploring the Existential Experience of Architecture

Negotiating Boundaries - Exploring the Existential Experience of Architecture

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Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

Master of Architecture
In
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Abstract

Negotiating Boundaries is an effort to investigate and explore multisensorial environments. Throughout history, architecture is and has always been predominantly visual in nature. In the past, the visual dominance of architecture has often been critiqued by philosophers and architects. The thesis presents an argument that all senses – haptic, auditory, olfactory and vision, collectively contribute to experience a space.

The thesis is a qualitative approach towards studying the significance of this existential experience of architecture in the built environment. The privilege of the sense of sight over the other senses and its bias in architecture cannot be neglected.¹ Therefore, the experience of the visually impaired or blind has been used as a challenge to study these non-ocular centric spaces, and the setting to conduct this study is that of an art gallery.

Pallasmaa beautifully puts, “Vision reveals what the touch already knows.”

We see the depth, the smoothness, the softness, the hardness of object; Cézanne even claimed that we see their odor. If the painter is to express the world, the arrangement of his colors must carry with this indivisible whole, or else his picture will only hint at things and will not give them in the imperious unity, the presence, the insurpassable plenitude which is for us the definition of the real.²

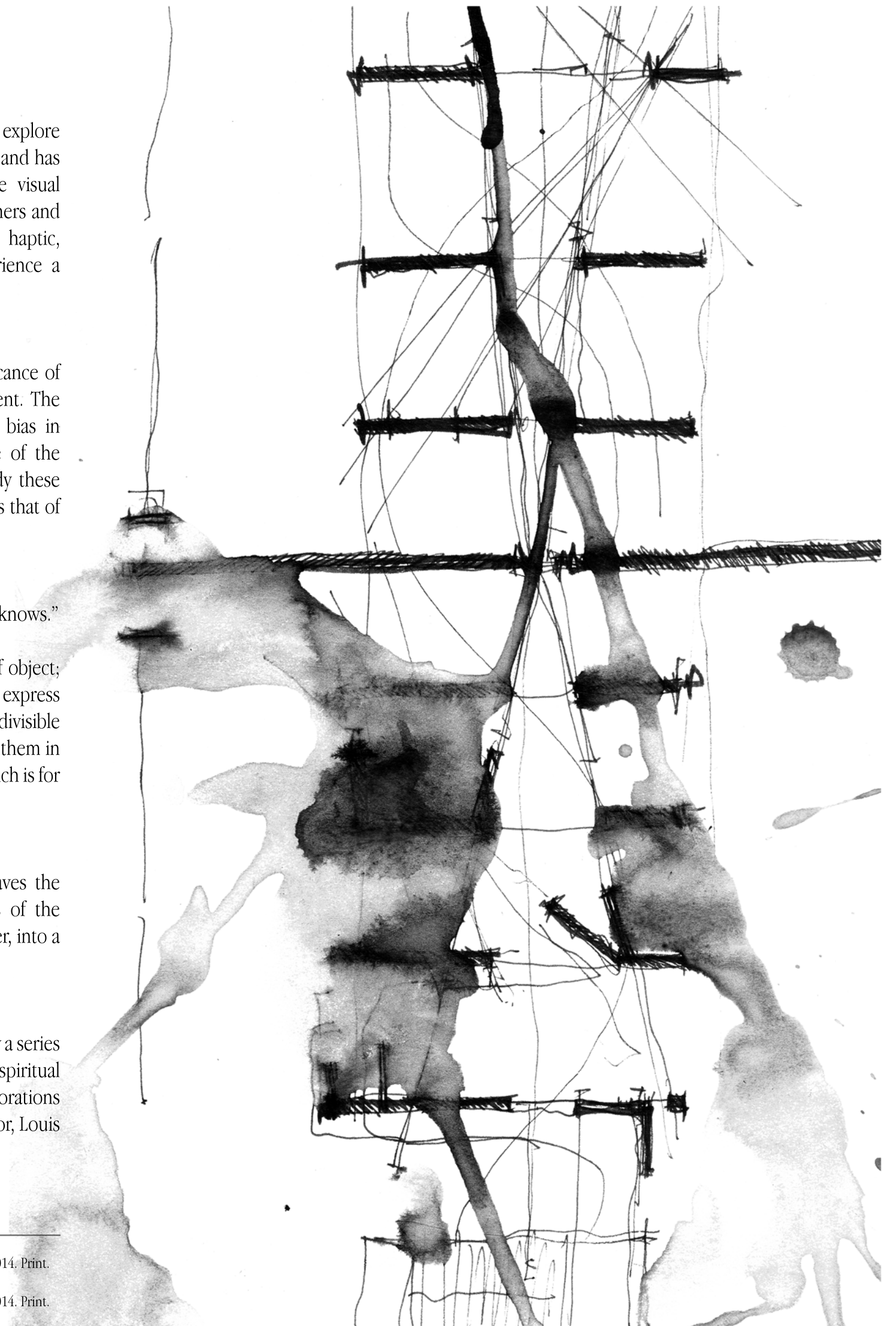
The live encounter with Frank Lloyd Wright’s Fallingwater weaves the surrounding forest, the volumes surfaces, textures and colors of the house, and even the smells of the forest and the sound of the river, into a uniquely full experience.³

The thesis presents a case to defend that architecture is not merely a series of visual scenes but has “a fully embodied material and spiritual presence.”⁴ Architects and Philosophers whose studies and explorations remain relevant to my interest are Juhani, Pallasmaa, Peter Zumthor, Louis Kahn, Steven Holl, and Carlo Scarpa amongst many others.

¹ Juhani, Pallasmaa. *The Eyes of the Skin: Architecture and the Senses*. Chichester: Wiley, 2014. Print.

² Maurice Merleau-Ponty: *Basic Writings*, edited by Thomas Baldwin

³ Juhani, Pallasmaa. *The Eyes of the Skin: Architecture and the Senses*. Chichester: Wiley, 2014. Print.



Acknowledgment

This thesis is dedicated to my parents, for their endless support, love and encouragement.
Thank you to Gaurang for all the love, patience and motivation.
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To all my friends and extended family here and back in India for their continuing support and understanding.

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Precedent Studies

Lack of good precedent examples led to studying buildings that I always admired in a new light. Looking at every building I admire and asking the far-reaching question, how would I experience the building if I were visually impaired or blind?

Below is a short analysis of three buildings and architects who understand and believe in the existential experience of architecture and could express it in a tangible form – Brion Cemetery by Carlo Scarpa, Kimbell Art Museum by Louis Kahn and Bruder Klaus Chapel by Peter Zumthor.

Brion Cemetery Carlo Scarpa

Brion Cemetery is a great example of Scarpa's creative genius. The peaceful tranquility, spirituality and the softness expressed in his building is balanced by the hardness of the material. The use of brass and other metals in contrast with the texture of the concrete is repeated throughout the building. The use of plain concrete walls with stepped edges and embellished corners might give the visually impaired some information about the materiality of the space and a sense of direction.

Kimbell Art Museum Louis Kahn

Innovative use of natural light and use of contrasting materials like concrete, travertine and white oak make this an ideal study. The use of natural light, diffused to create a uniform lighting condition is an ideal example for an art gallery. Use of materials such as concrete, travertine and white oak, that feel so different from each other, show Kahn's interest in the haptic experience of the visitor.

Bruder Klaus Field Chapel Peter Zumthor

Zumthor's austerity and simplicity make this chapel an ideal study. Zumthor's architectural interpretation of Bruder Klaus's vision in the form of the tear drop oculus is the highlight of the experience. The method of construction – the memory of the tree trunks inside the building, the smell of the smoked wood make this building a unique experience.



Fig. 1.0

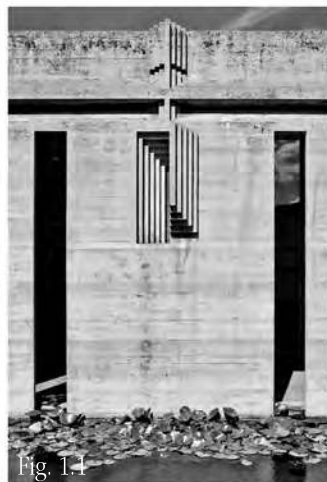


Fig. 1.1



Fig. 1.2



Fig. 1.3



Fig. 1.4



Fig. 1.5



Fig. 1.6

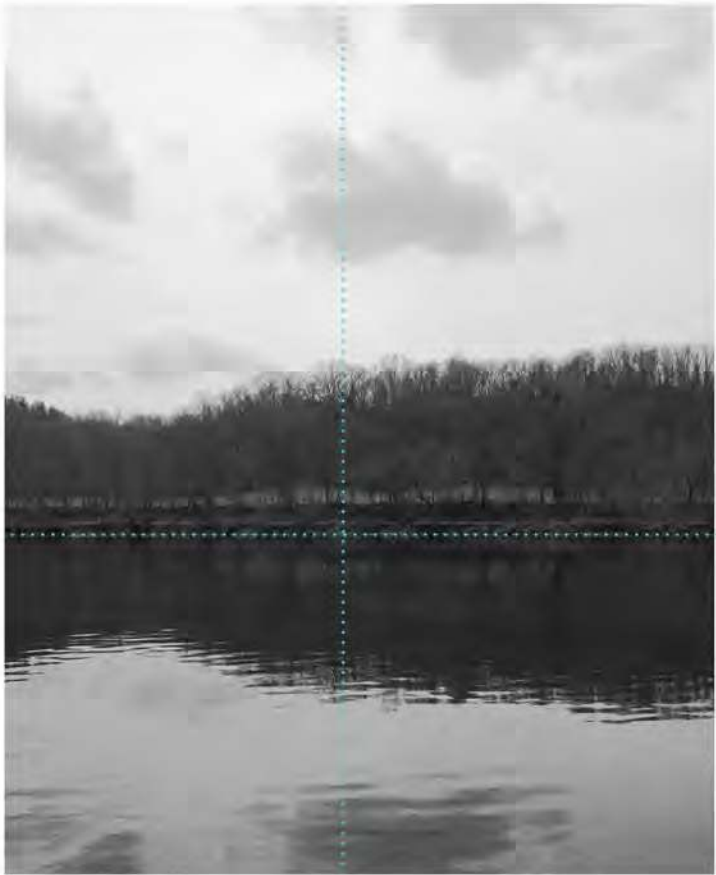
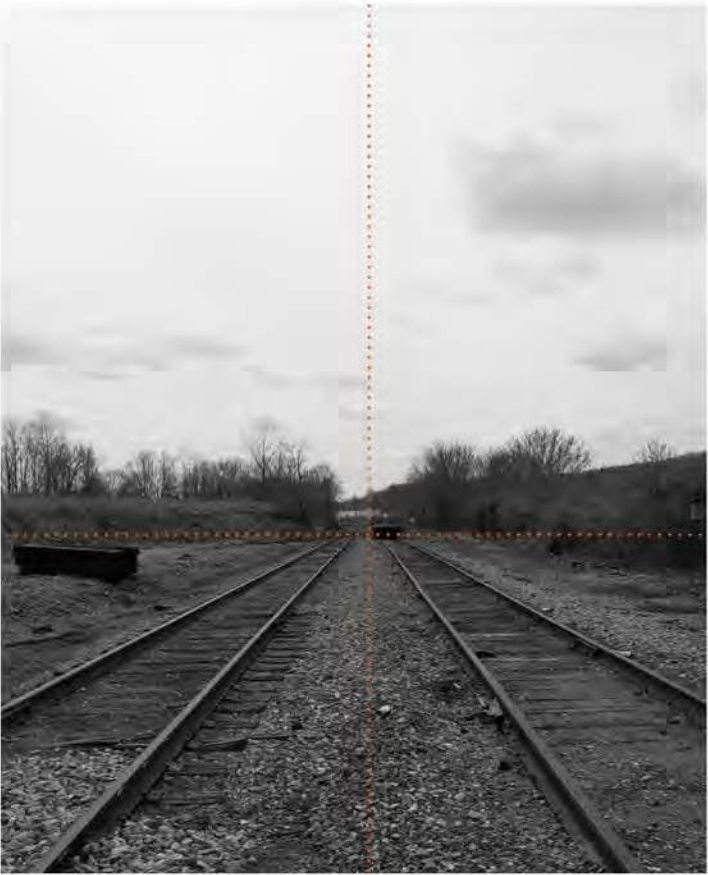


Fig. 1.7



Fig. 1.8

Site Dichotomy



Loud

Radford, Virginia
37.125689, -80.590065

di·chot·o·my
noun

a division or contrast between two things that are or are represented as being opposed or entirely different.

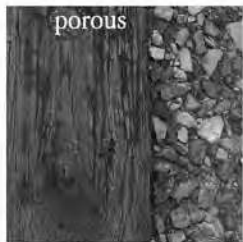
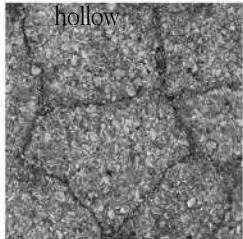
The site presented itself with an inherent dichotomy in its experience. It is situated between a bustling city of Radford, the chaotic railway track and the calm new river. The idea is to capture the **quietness**, the calmness of the river and the **loudness** of the city into the built form. The aim is to make the person more aware of its surroundings, of its being. Architecture strengthens the existential experience, one’s sense of being in the world, and this is essentially a strengthened experience of self.¹ The thesis attempts to use architecture as a means to heighten this experience. The aim is to create an architecture engaging all senses to interact and fuse together to experience the dichotomy that exists.

¹ Juhani, Pallasmaa. The Eyes of the Skin: Architecture and the Senses. Chichester: Wiley, 2014. Print.

Quiet

loud

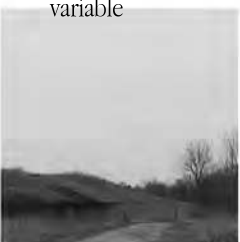
wood



quiet

concrete

steel





Quiet

noun

1.

absence of noise or bustle; silence; calm.

Quietness, Loudness – To interpret these two distinct experiences in architecture dictates a certain material choice.

Concrete as a material has been used to collect and accentuate the sound of the river water hitting the rock creating gentle ripples and the twittering of the birds. The thesis architecturally expresses the quietness of the river in a meditative, spiritual and a contemplative form.



Loud

adjective

1.
producing or capable of producing much noise; easily audible.

Quietness, Loudness – To interpret these two distinct experiences in architecture dictates a certain material choice.

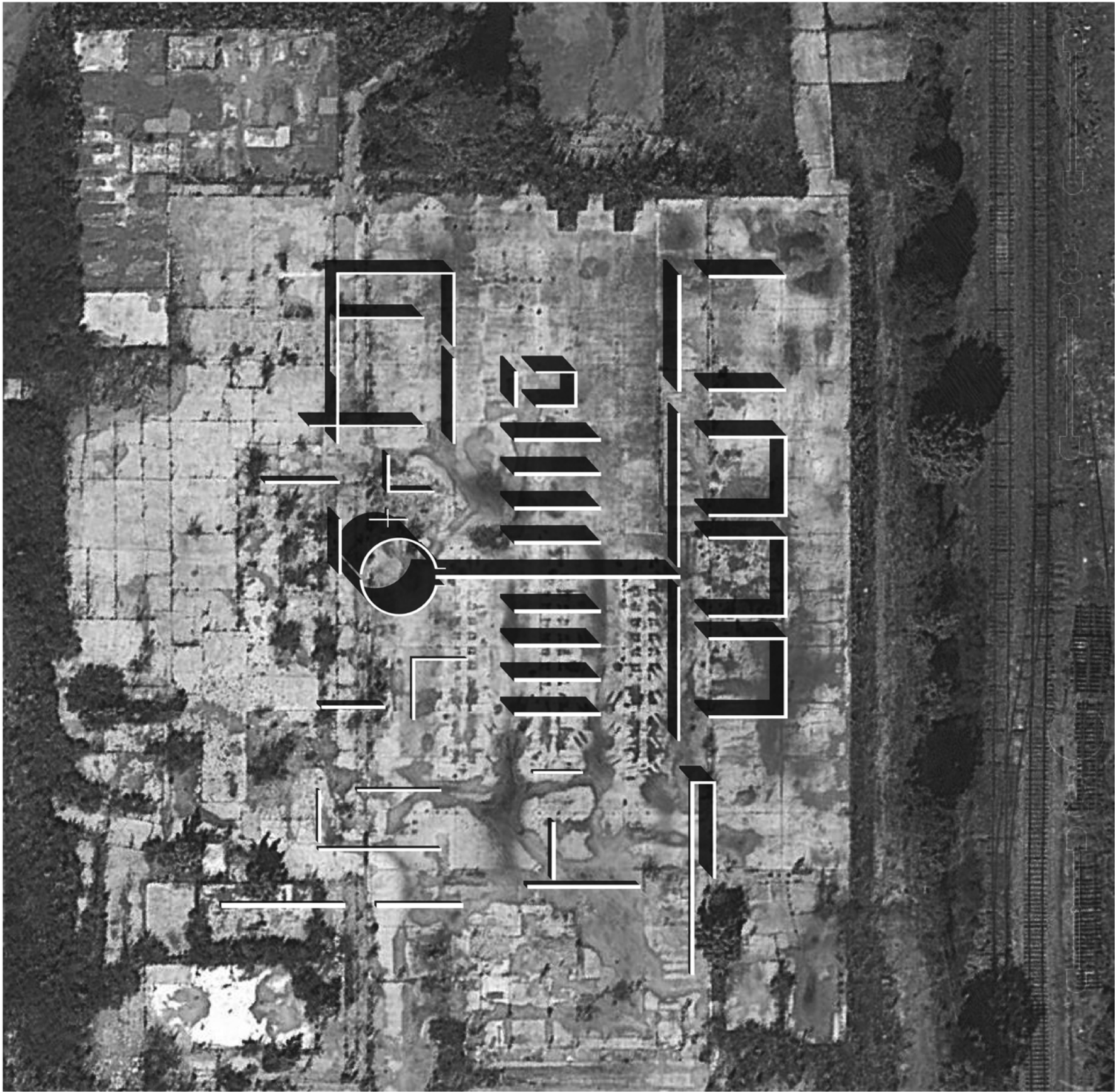
Wood as a material has been used to collect and accentuate the sound and the vibration from the railway track, of people talking and the moving traffic. The thesis aims to create a more porous and permeable form to express the lightness and temper of the railway and the city.



Radford, Virginia, 2017
37.125689, -80.590065





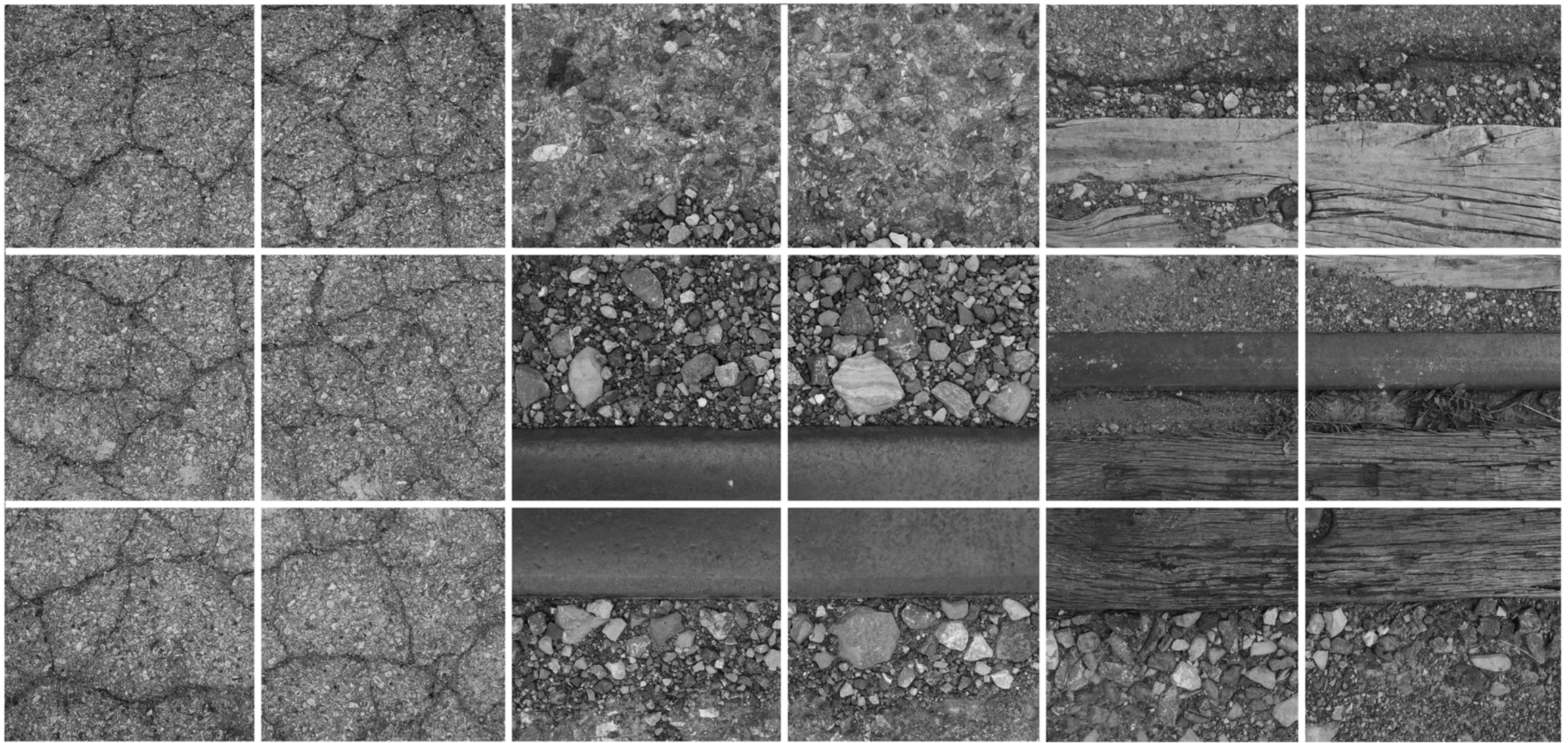


Memory of the Site

The site was an industrial factory until 2010, the building on the site was demolished in 2011. What was left after the demolition was the impression of the walls and the foundation, on the ground. The building takes cues from the site to build up some of the walls as a way to preserve the memory of what once existed.





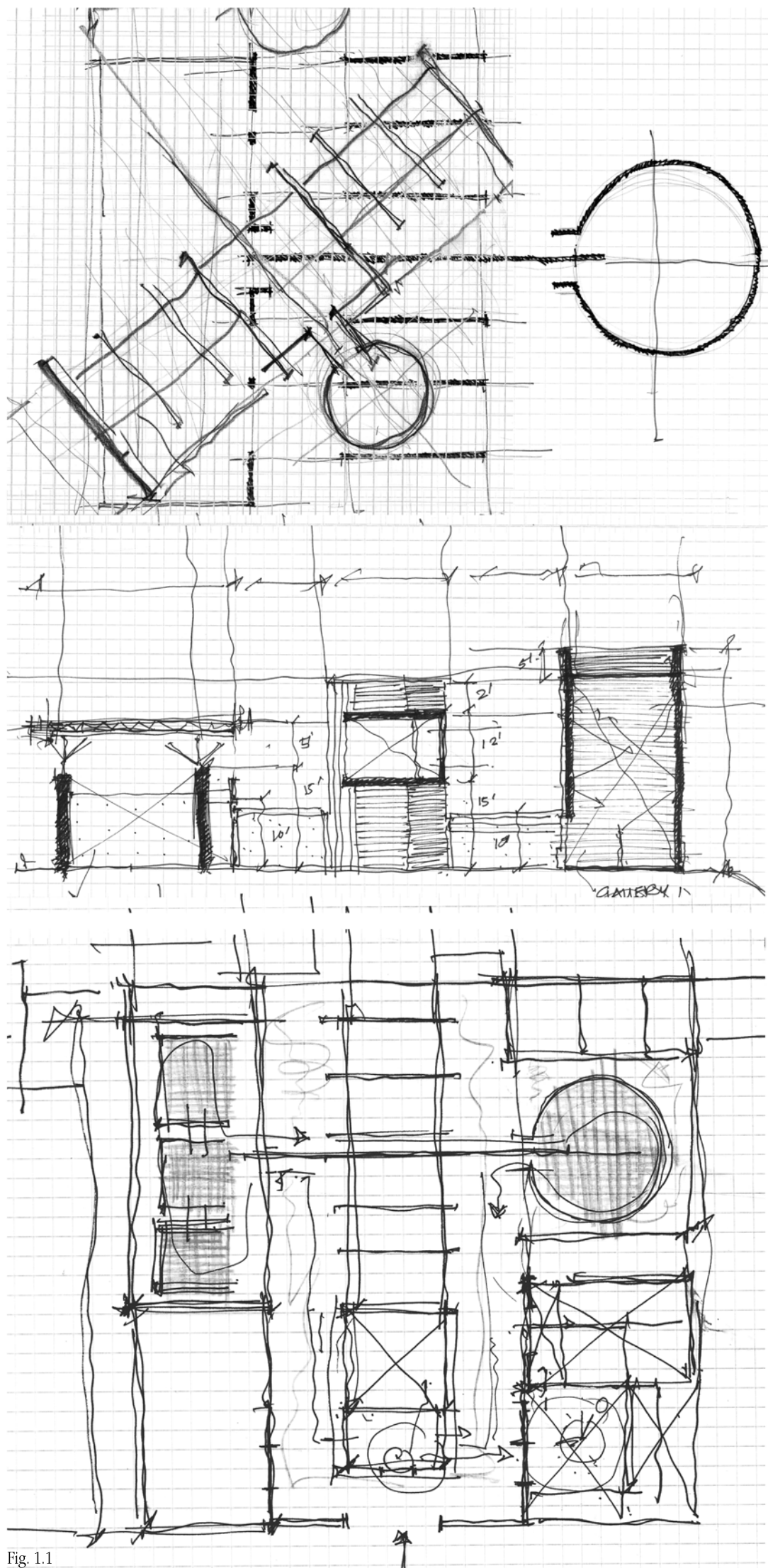


Hues, Semblance and the Material Palate

The building is an expression of the hues, material palate and the semblance of the site. The building is born out of the site, the textures and patterns are reminiscence of its surrounding.

The coarse nature and the color of the crushed stones near the railway track and the rounded cobbled stones near the river are expressed in the built form. The weathered, aging wood and the hard, cold rusted steel on the railway track also prompted the material choice.

All these come together to trigger a memory of the site in the built form and create a sense of place.



The Idea

The central idea revolves around the concept of binary opposites, the circular gallery signifying the quiet space and the square gallery signifying the loud space. The in-between space is the live and work cell for the artist with a sculpture garden on the first floor.

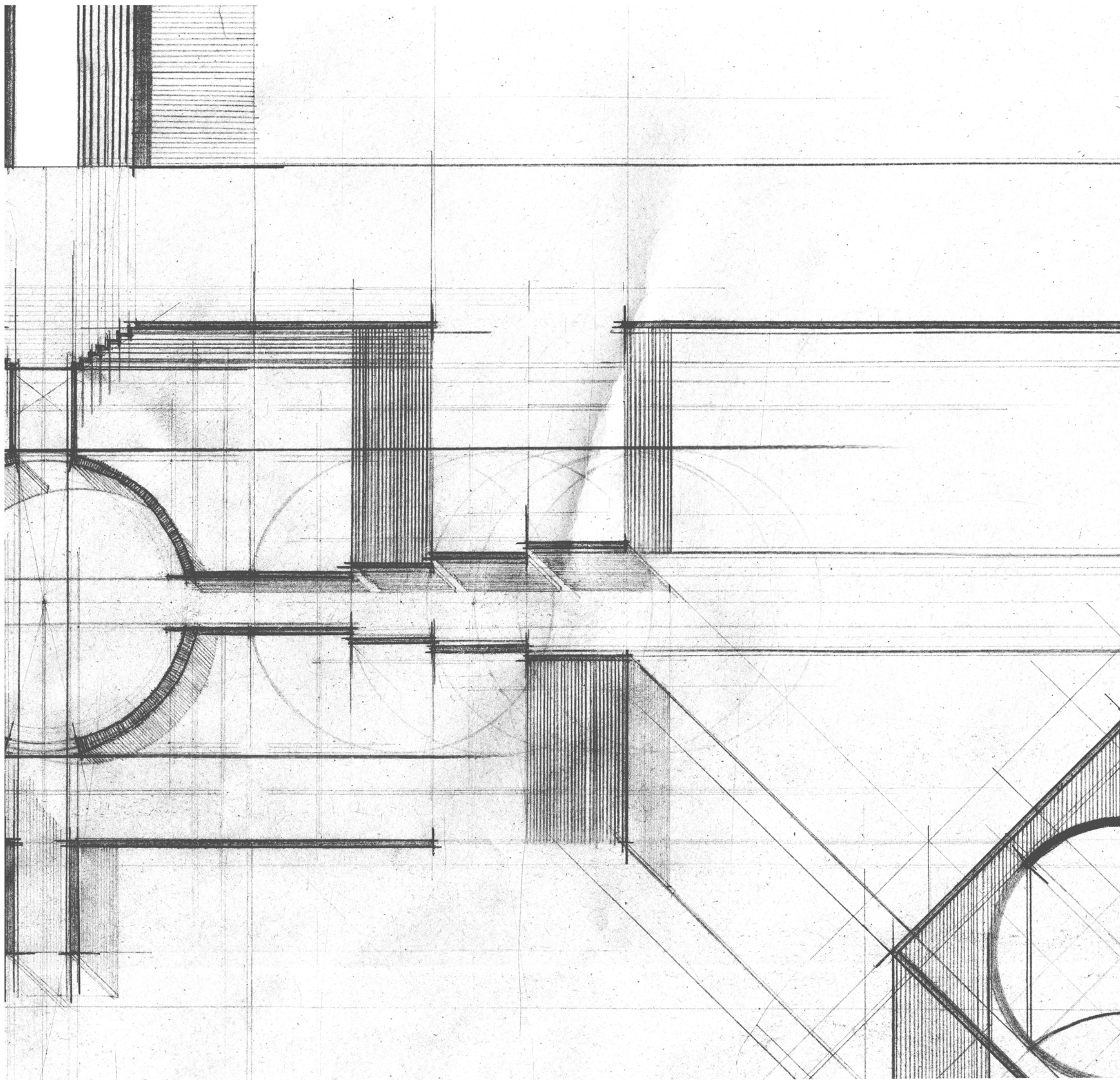
The circular gallery and the square gallery are both made of the same material but are experientially very different from each other.

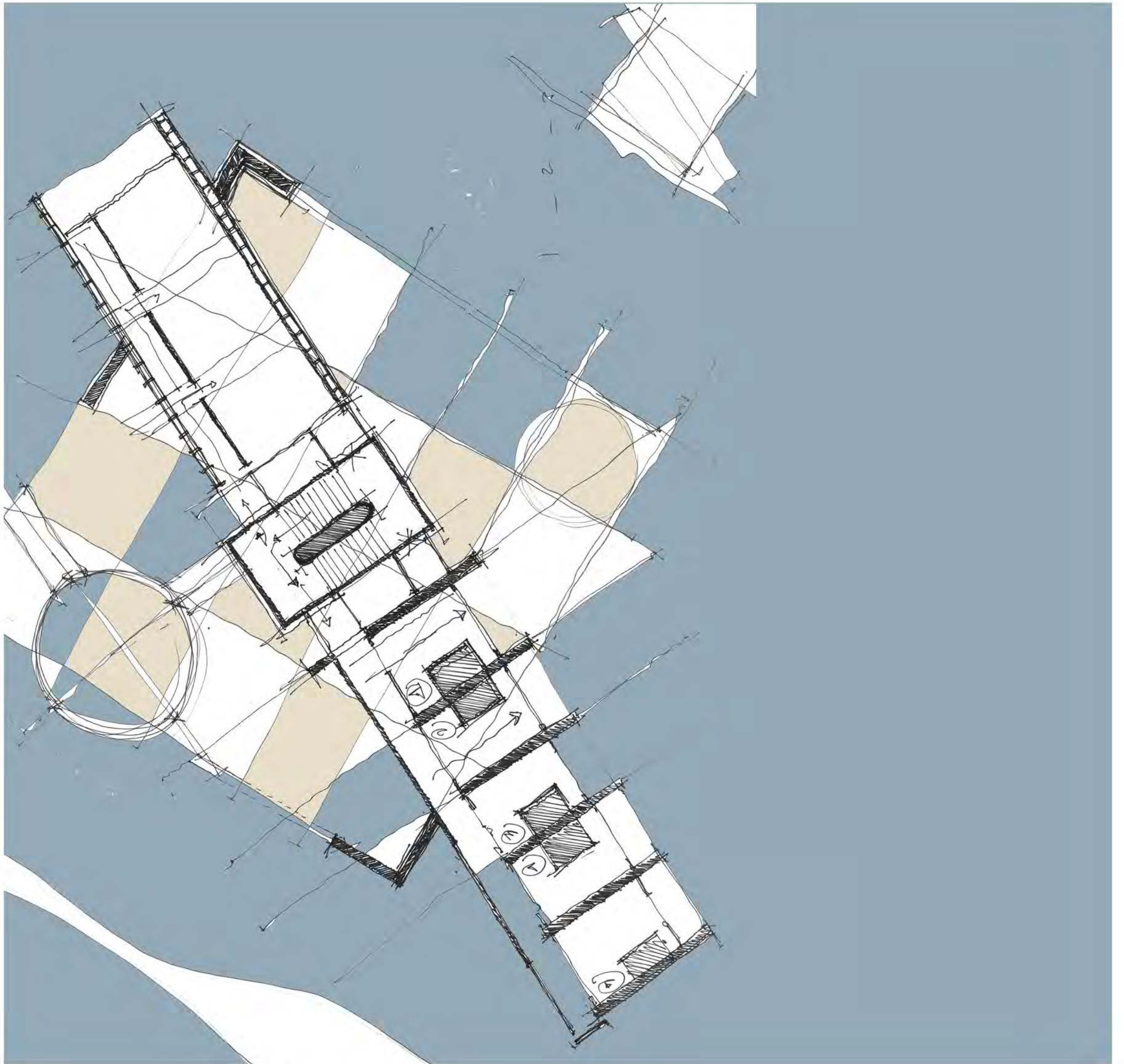
The circular gallery will not be insulated, hence the temperature inside will be variable, while the square gallery will have more uniform controlled temperature.

Due to the treatment of concrete and the volume of the space, sound inside the circular gallery will echo, suggesting a quiet space, in complete contrast to the square gallery.

No artificial lighting and strategic openings in the circular gallery suggest a spiritual and a meditative space, while the square art gallery will have a uniform lighting condition, suggesting an interactive space.

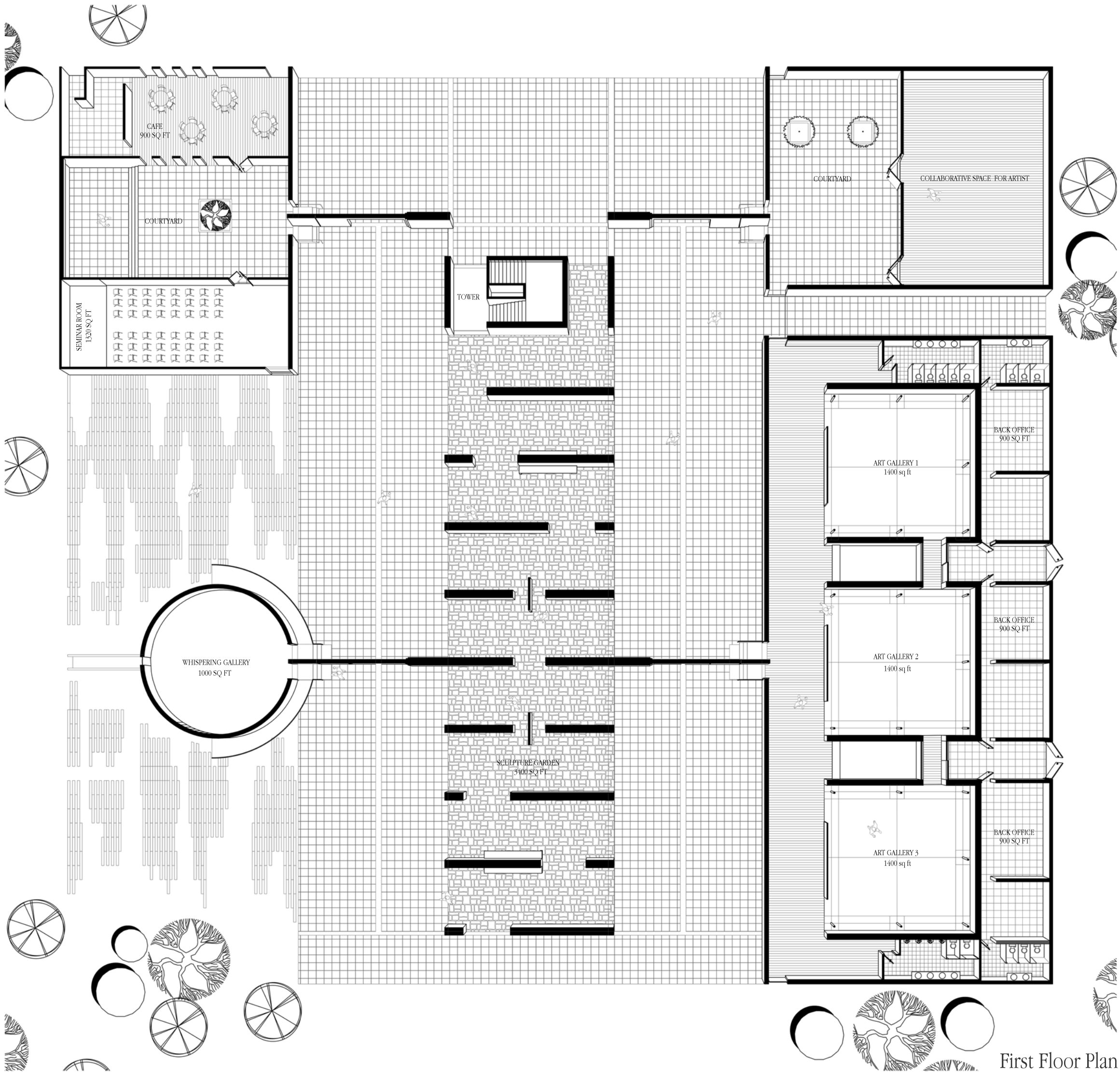
Fig. 1.1



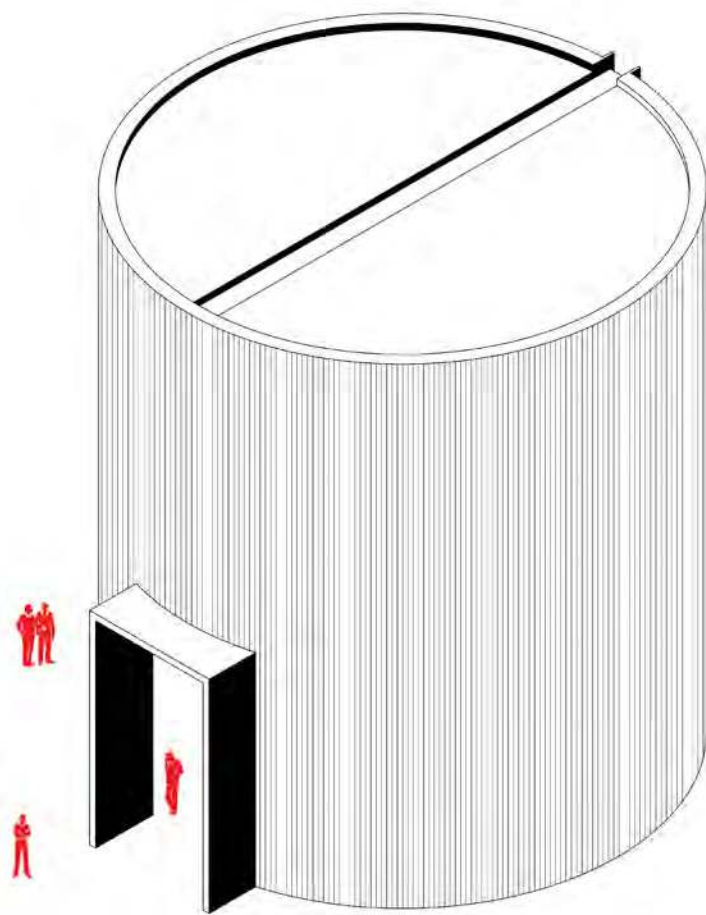




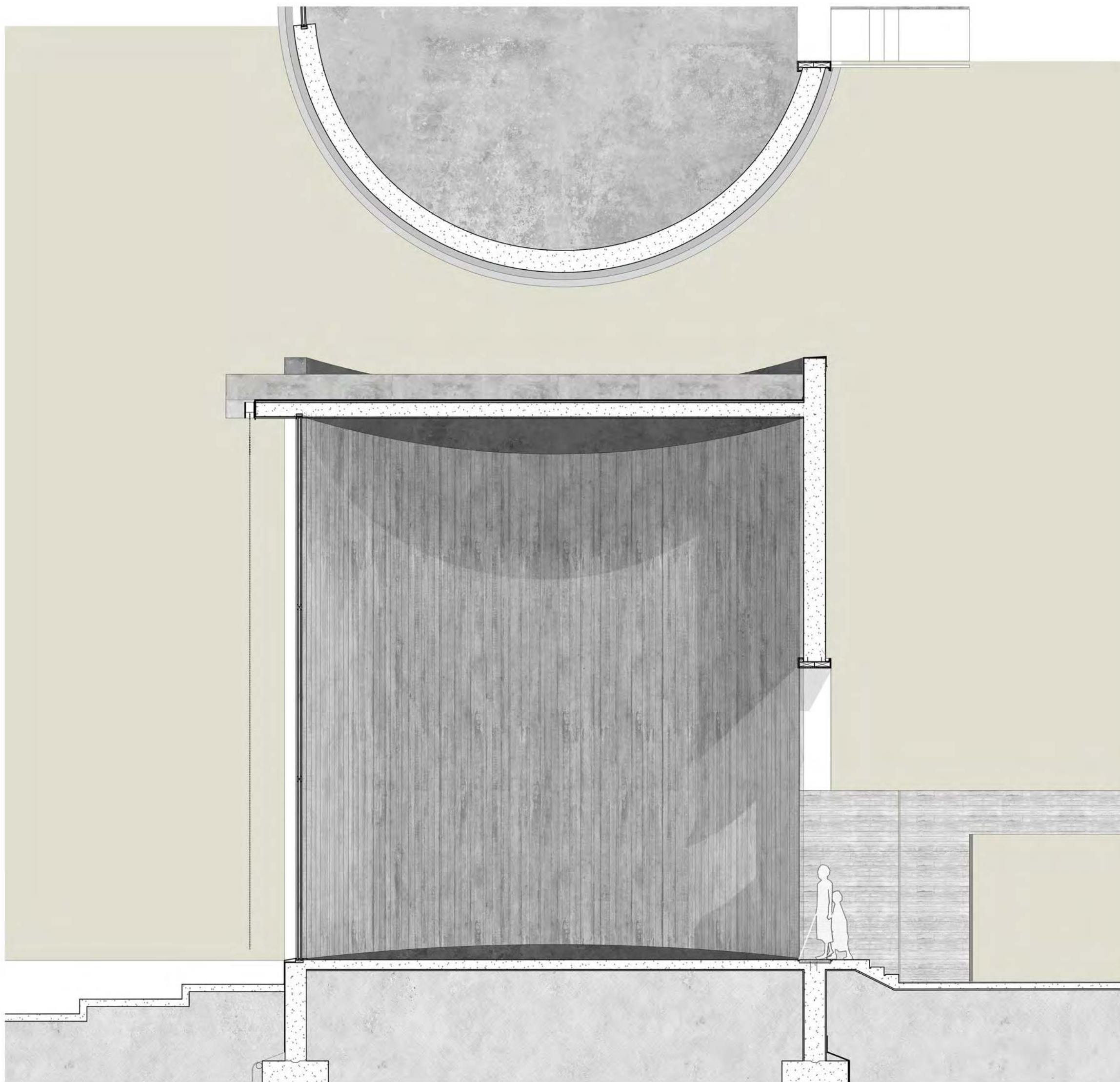
Study Model



First Floor Plan



Whispering Gallery



Threshold Space

thresh·old

noun

1.
a strip of wood, metal, or stone forming the bottom of a doorway and crossed in entering a house or room.

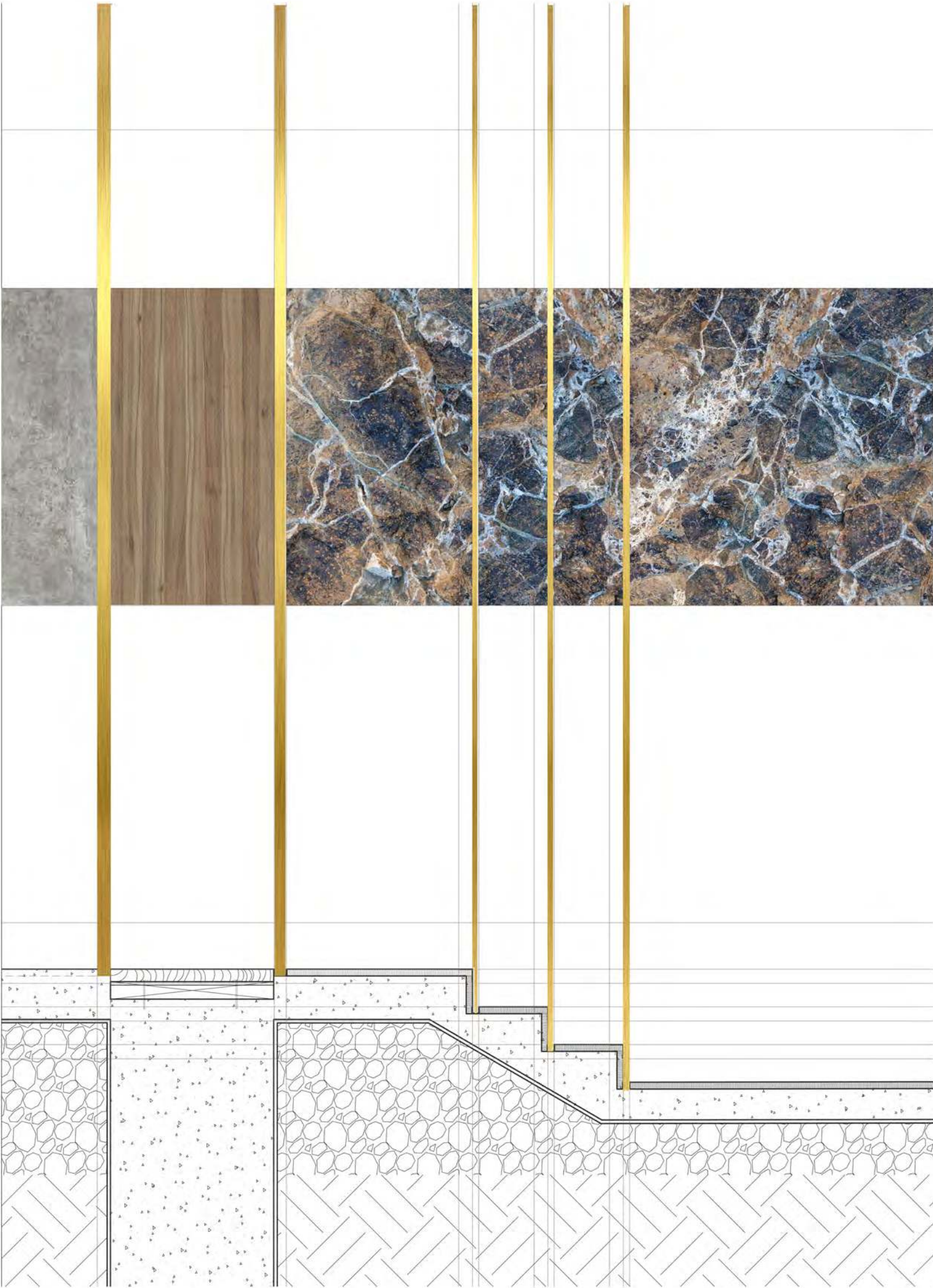
What is a threshold space? A prelude, an intermediate space, a barrier? Inside or outside? The threshold space is all of these, usually even at the same time. He lives on the spatial ambivalence between opening and closing and at the same time creates the expectation of what is to come. What is a threshold space? A prelude, an intermediate space, a barrier? Inside or outside? The threshold space is all of these, usually even at the same time. He lives on the spatial ambivalence between opening and closing and at the same time creates the expectation of what is to come.¹

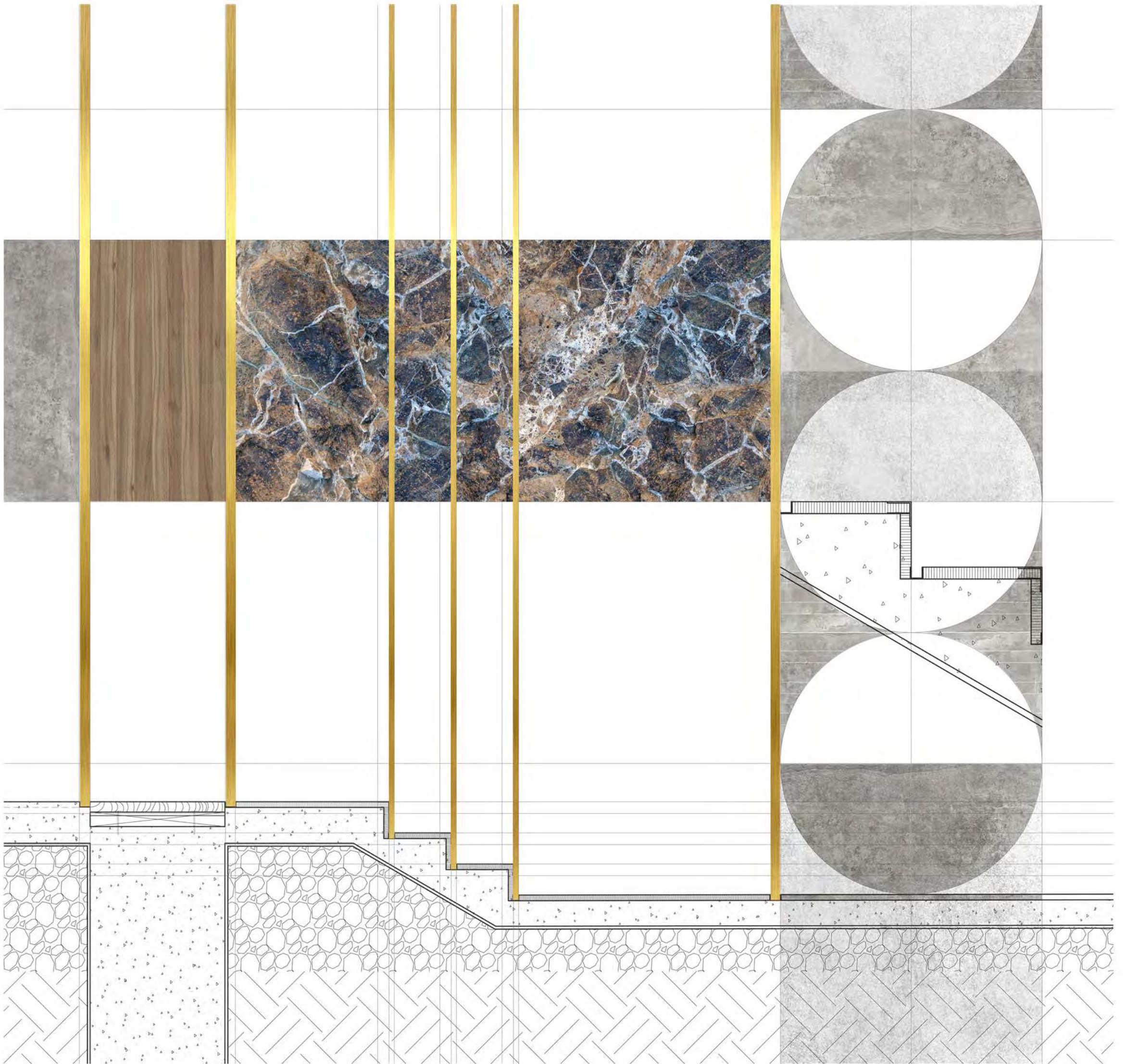
heavy | hard >
concrete pavers
brass inlay strip

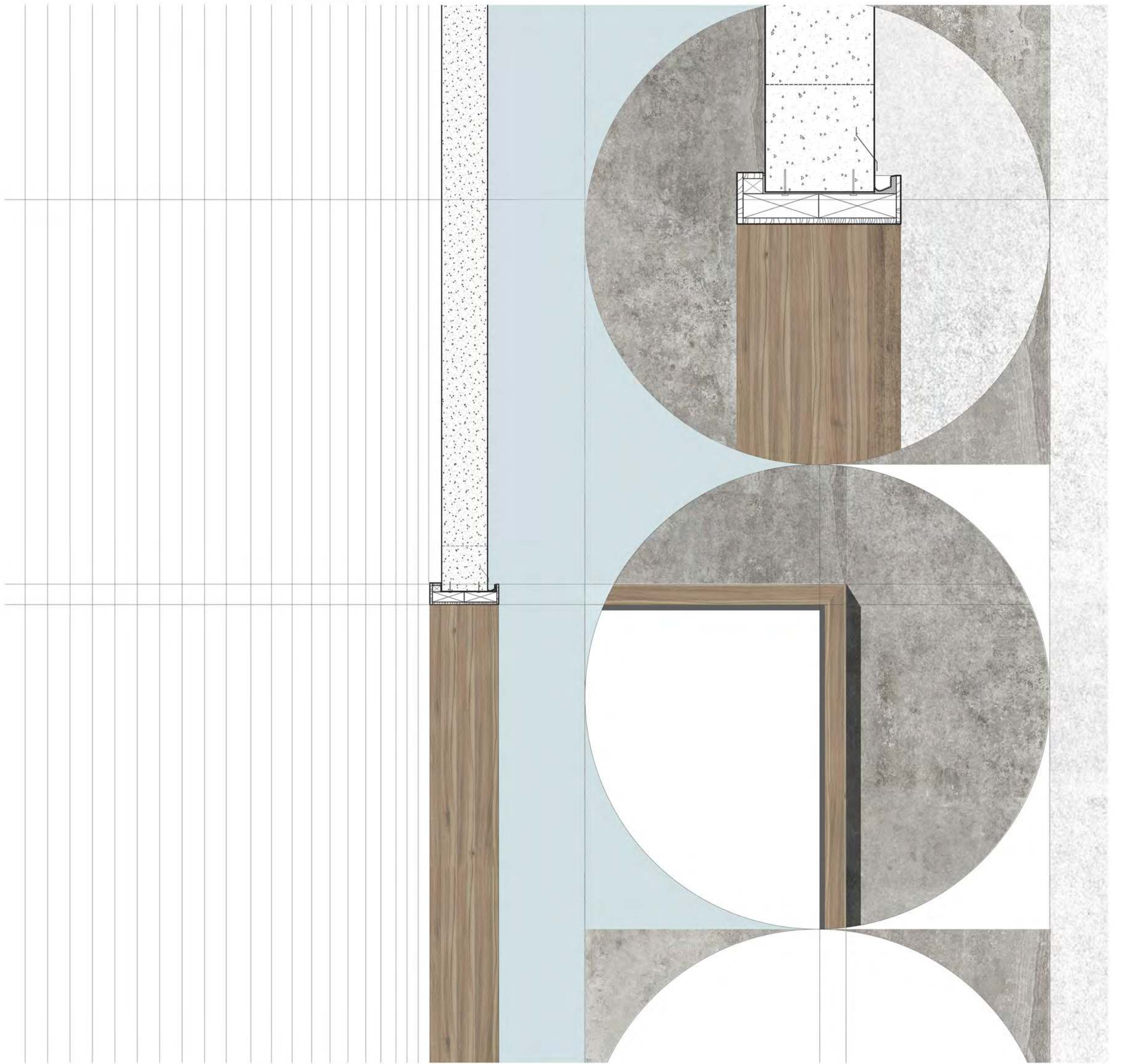
soft | hollow >
unpolished marble
brass inlay strip
hardwood

cold | hard >
concrete floor

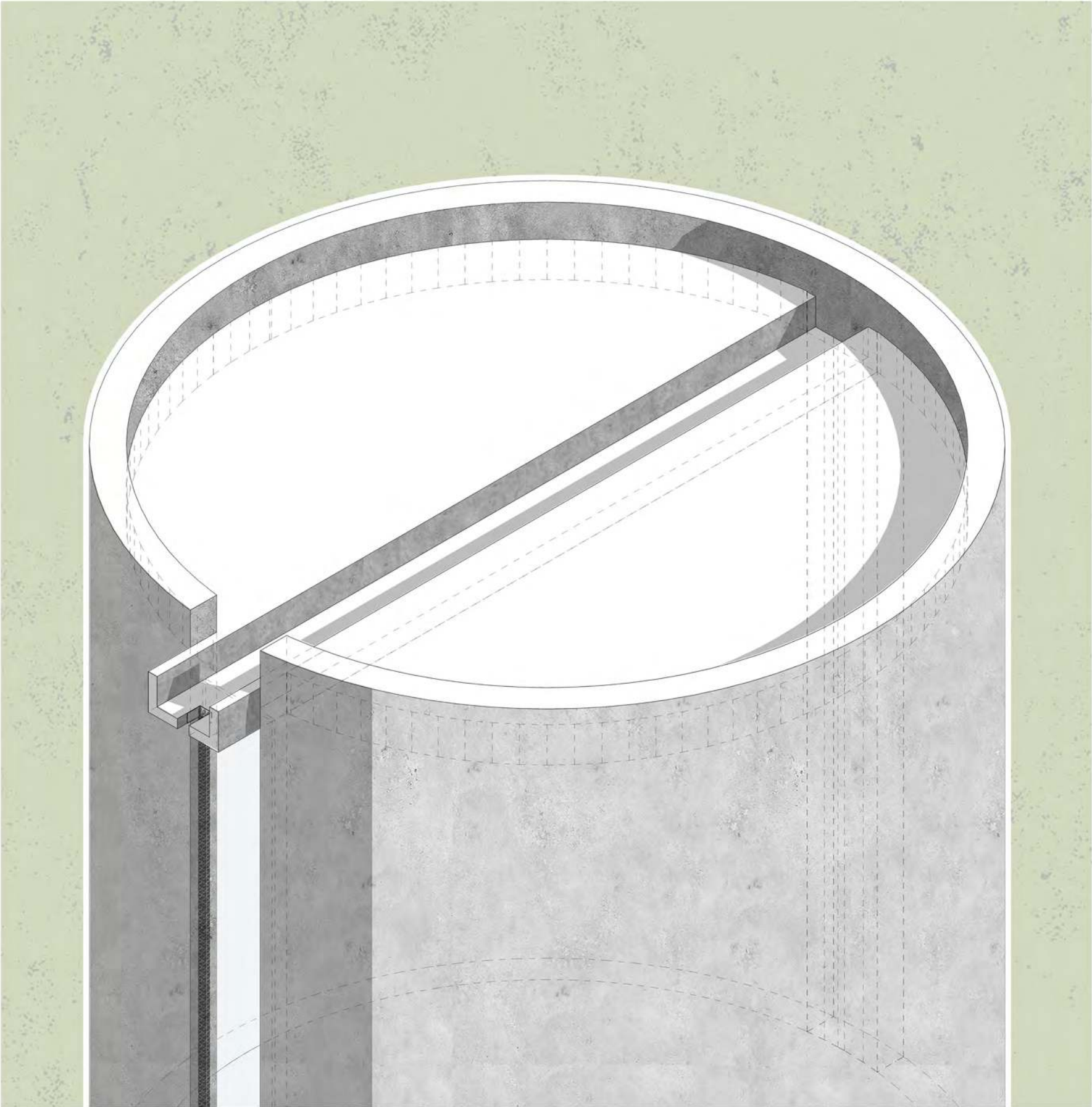
1 Boettger, Till. Threshold Spaces: Transitions in Architecture: Analysis and Design Tools. Basel: BIRKHÄUSER, 2014. Print.



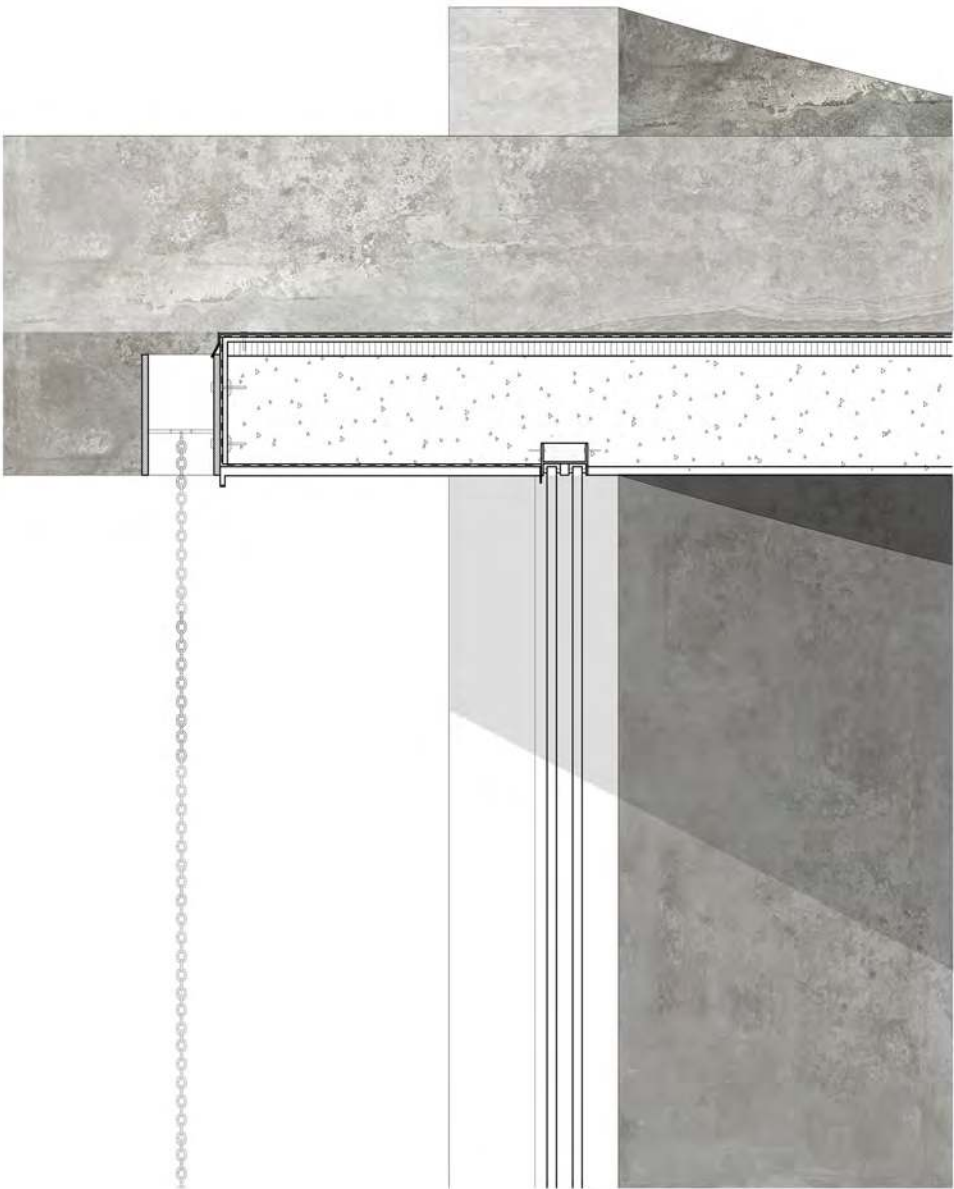


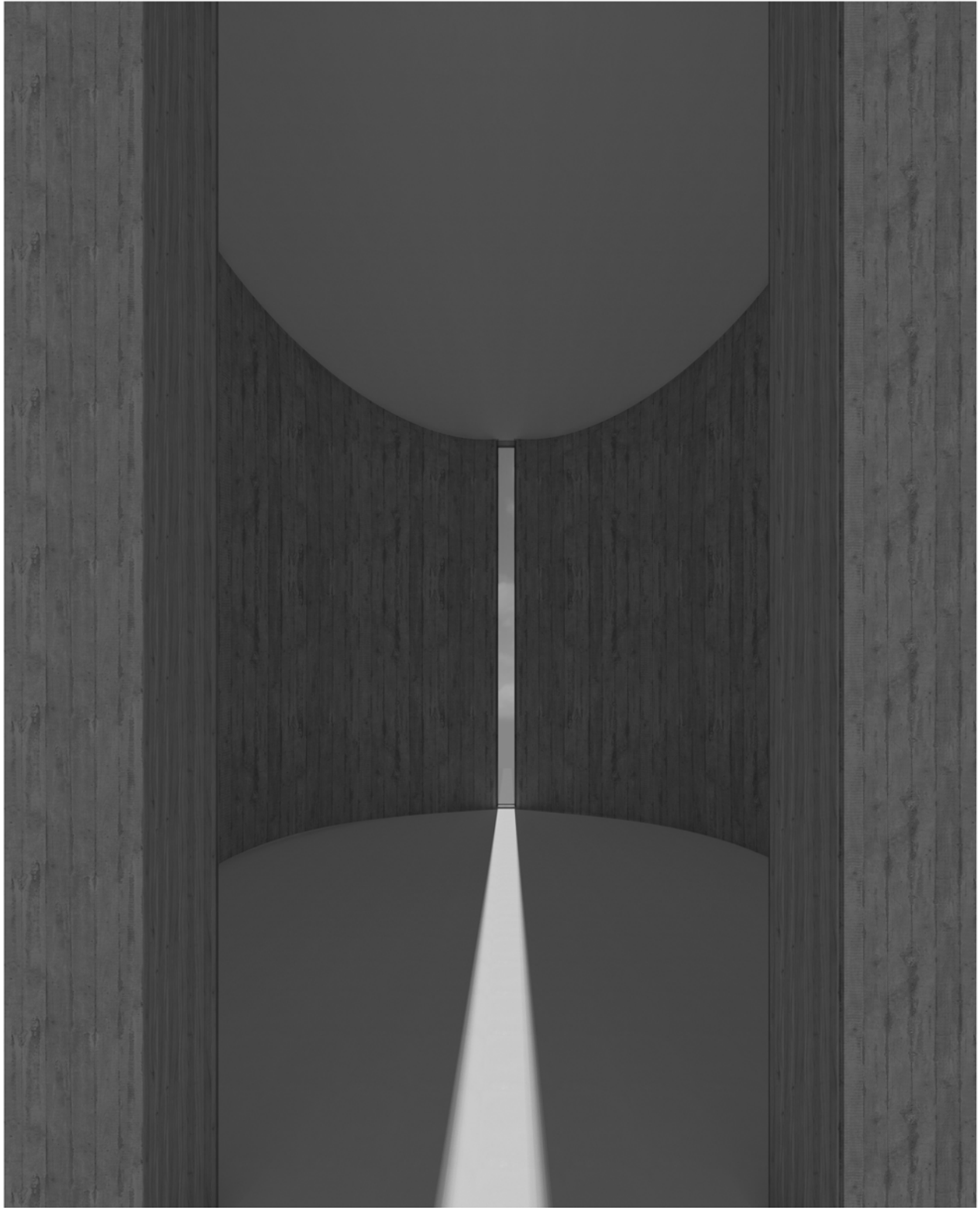




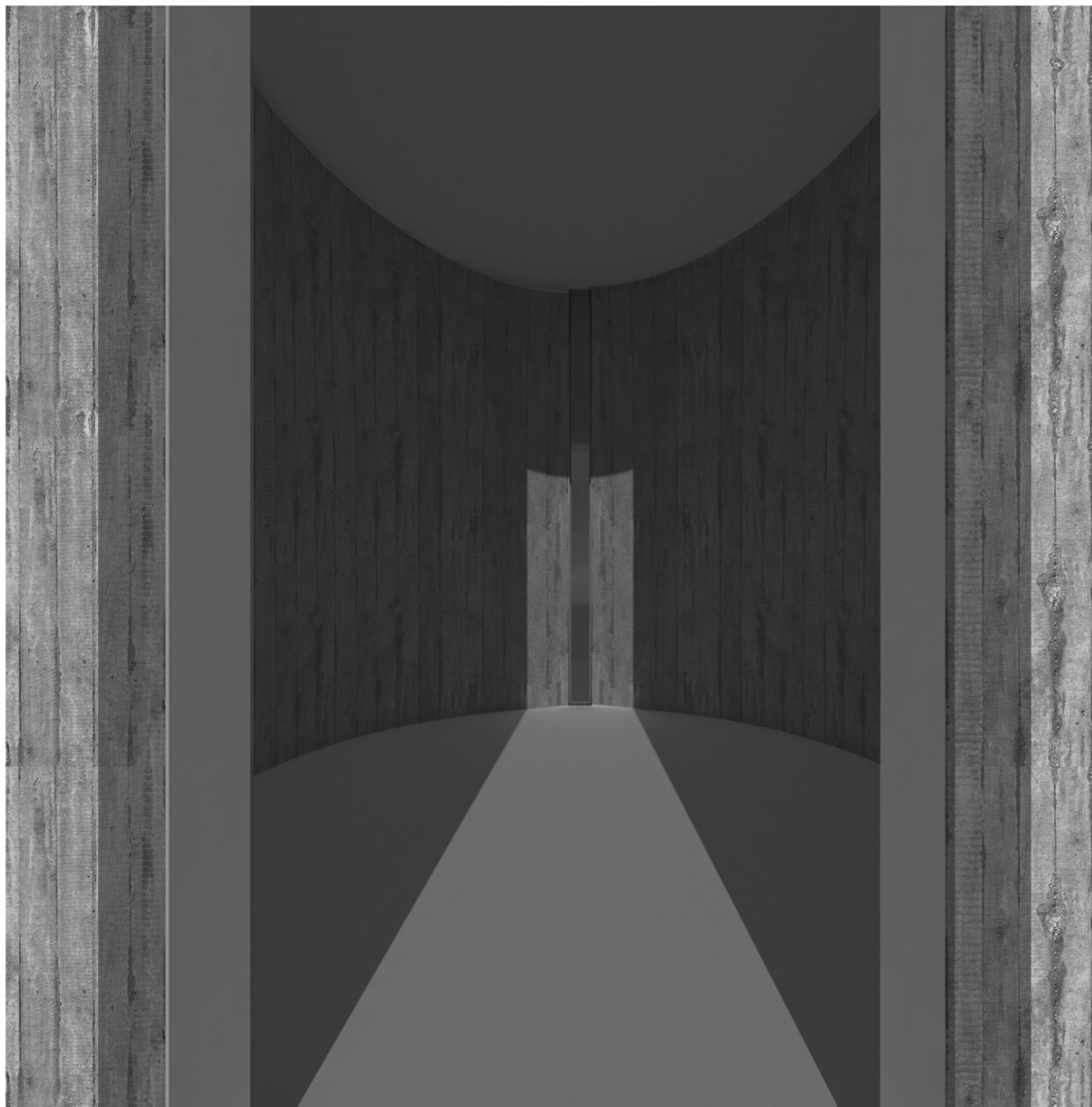


Edge Detail | Downspout Detail

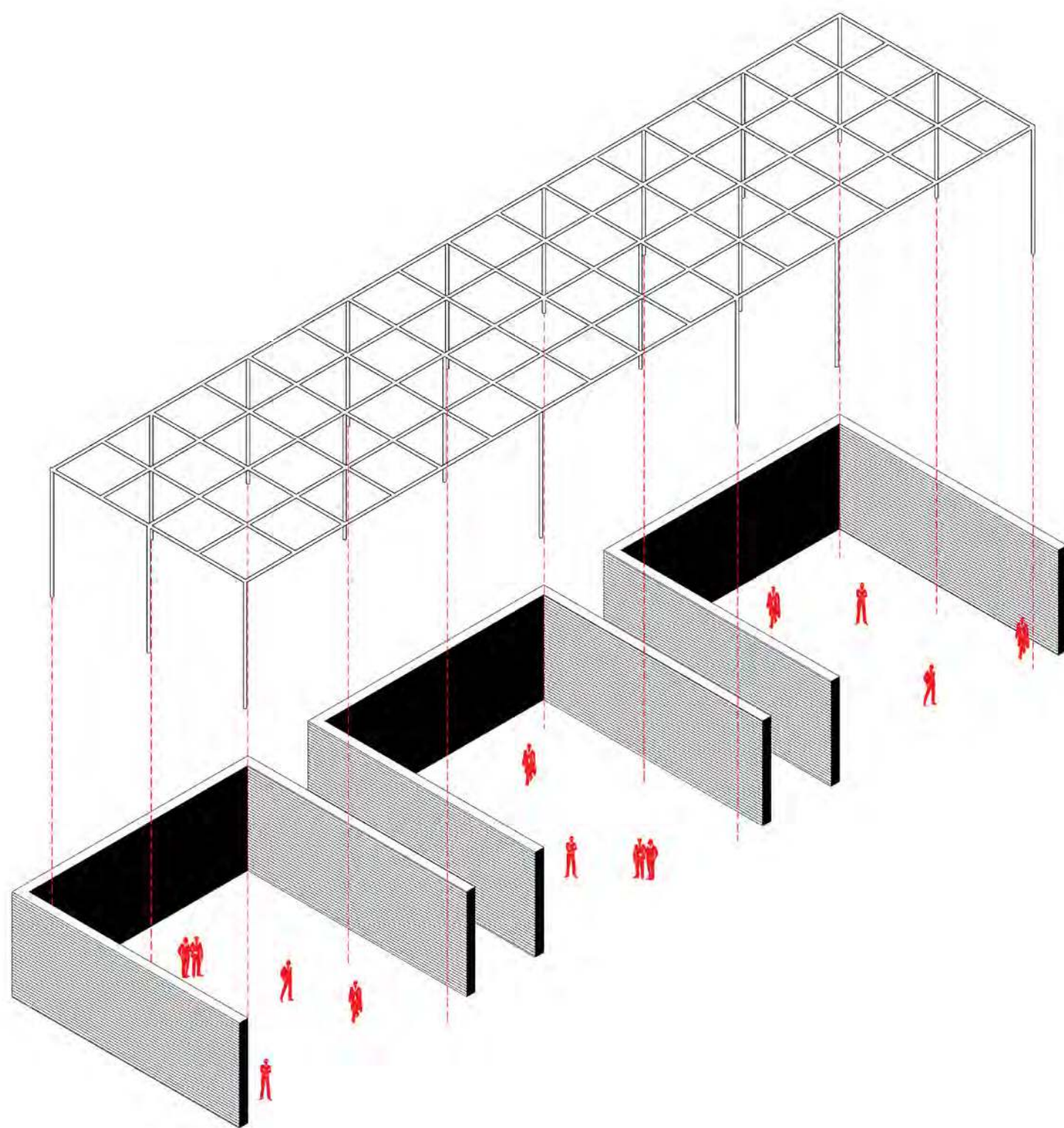




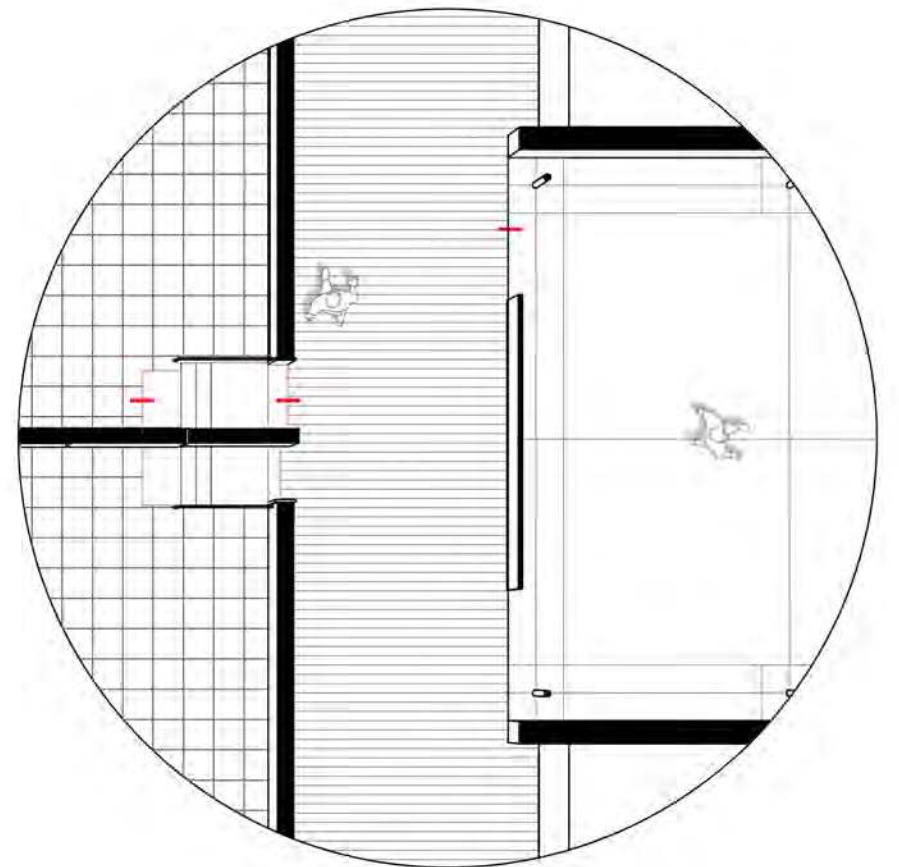
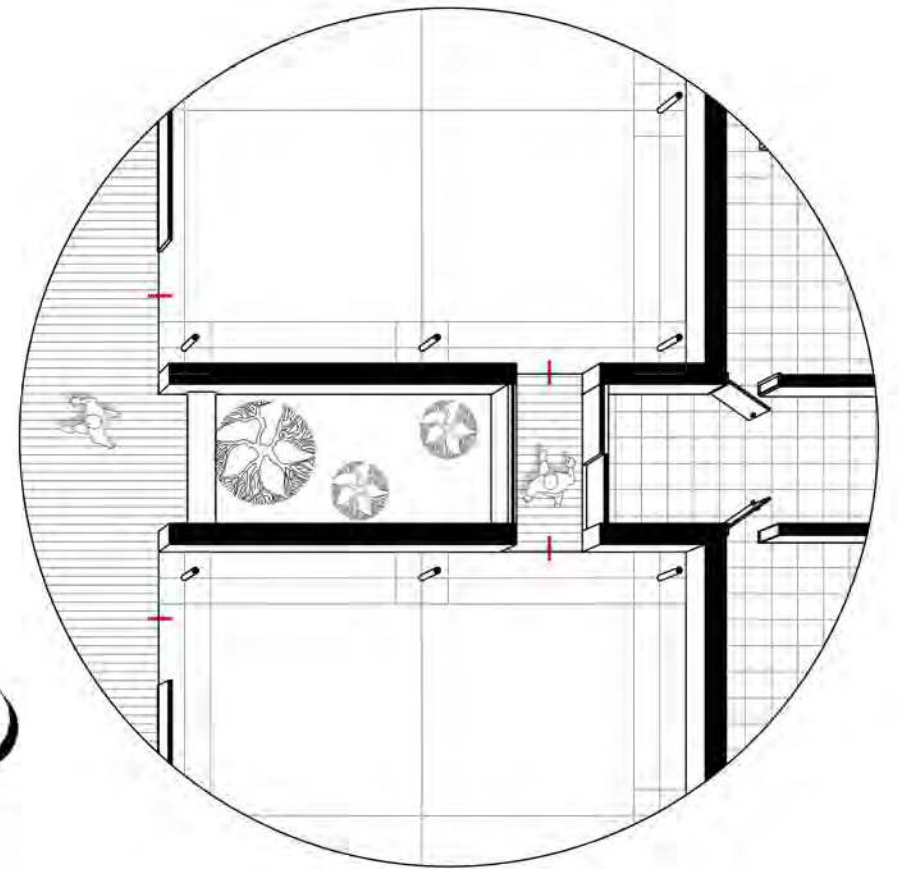
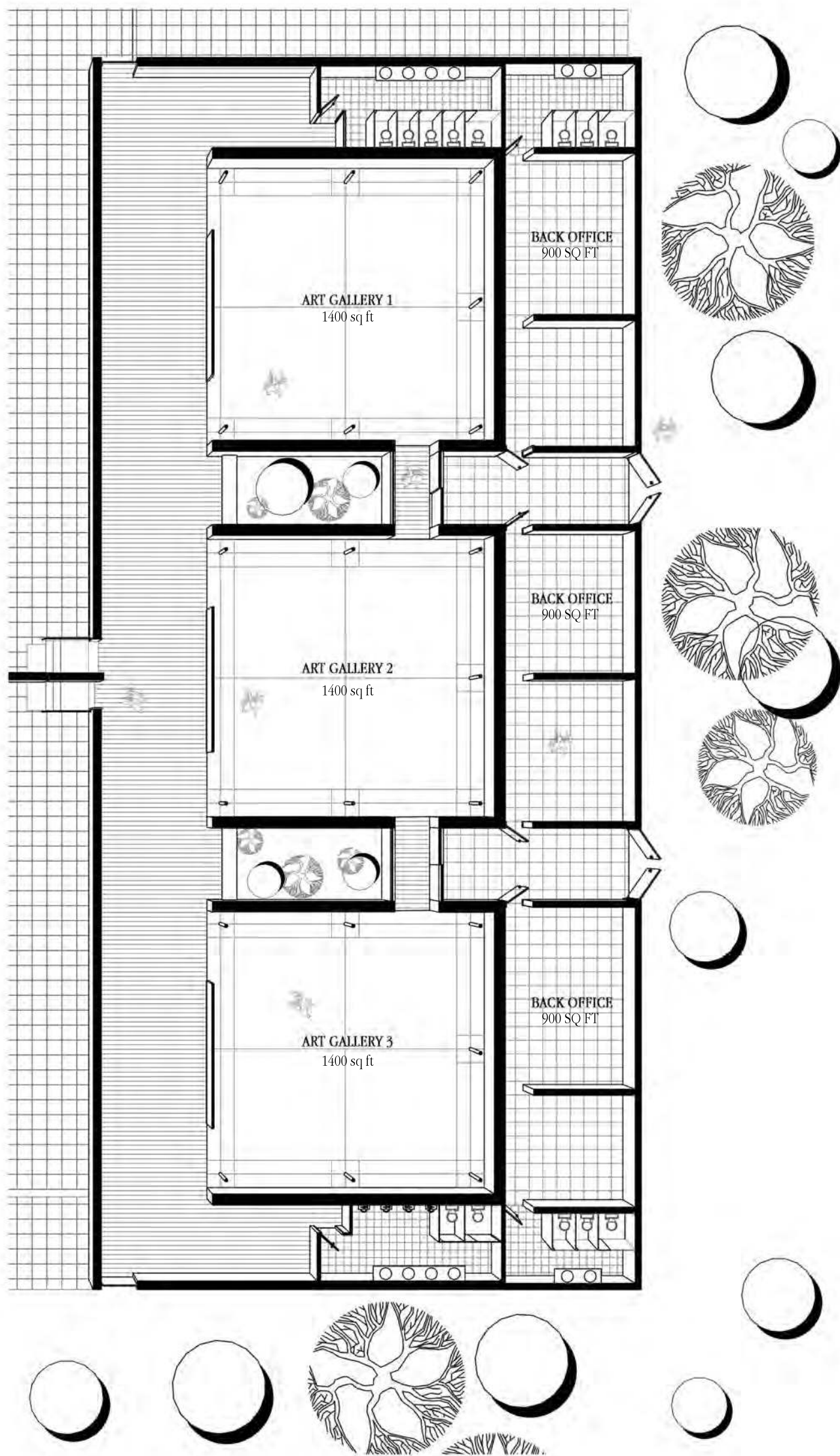
Lighting condition inside the whispering gallery



Lighting condition inside the whispering gallery

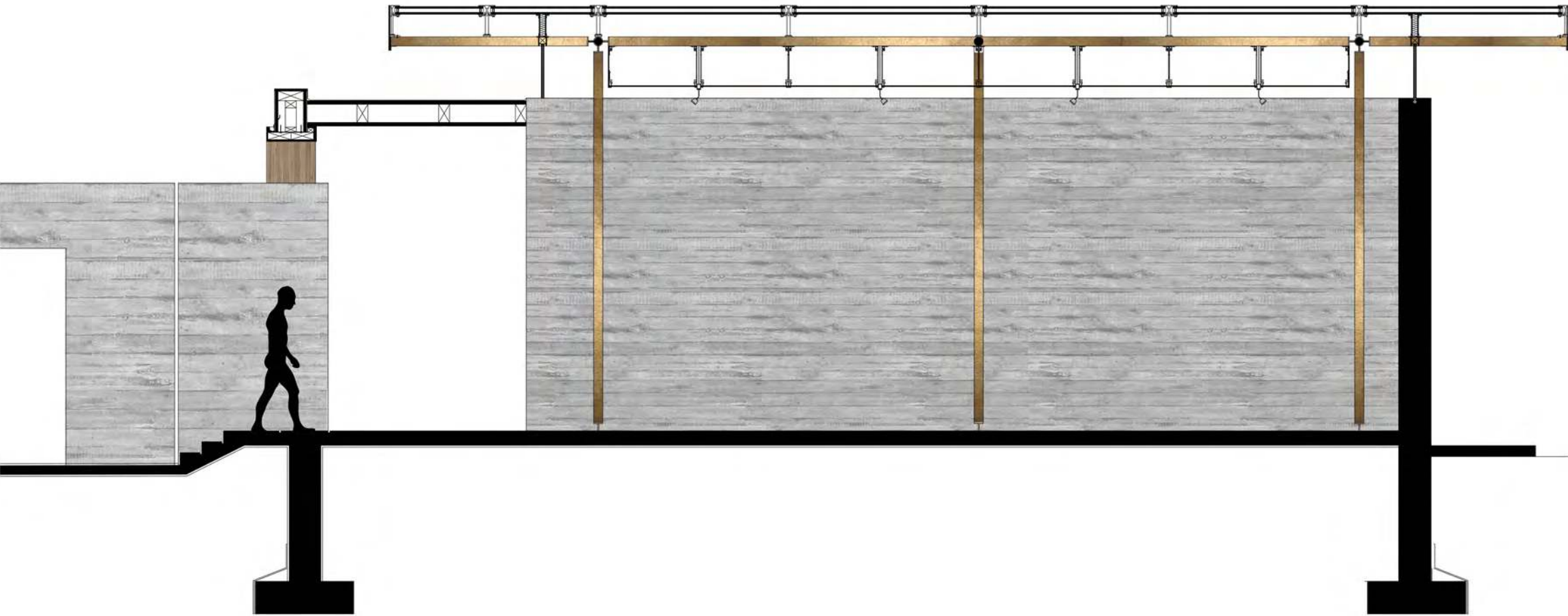
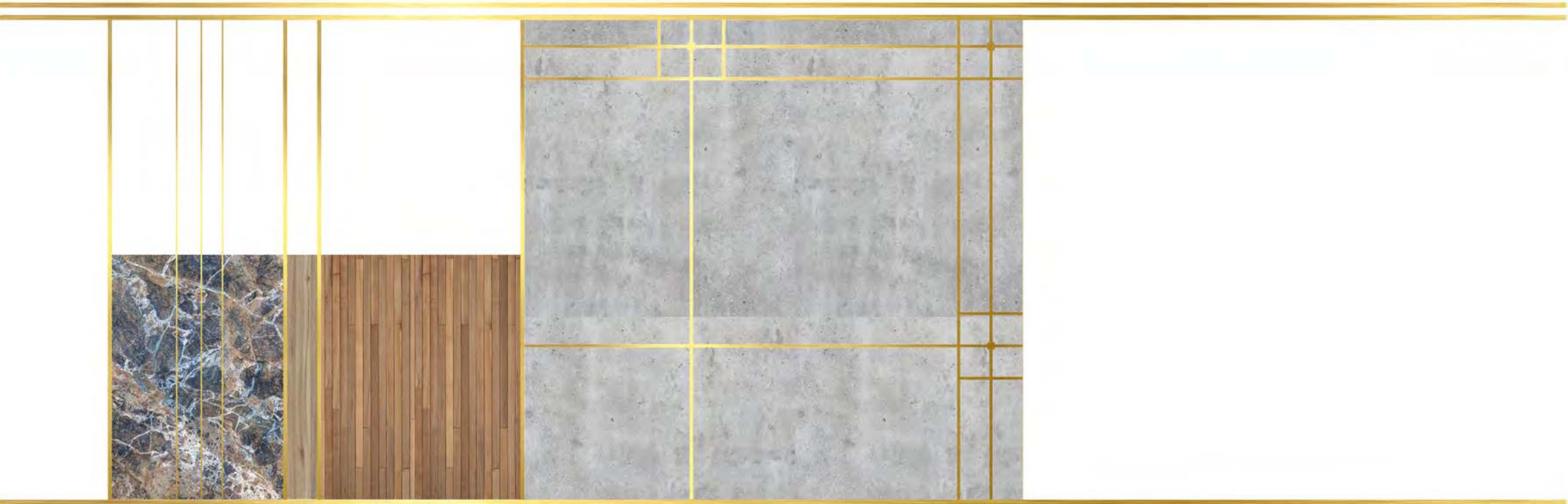


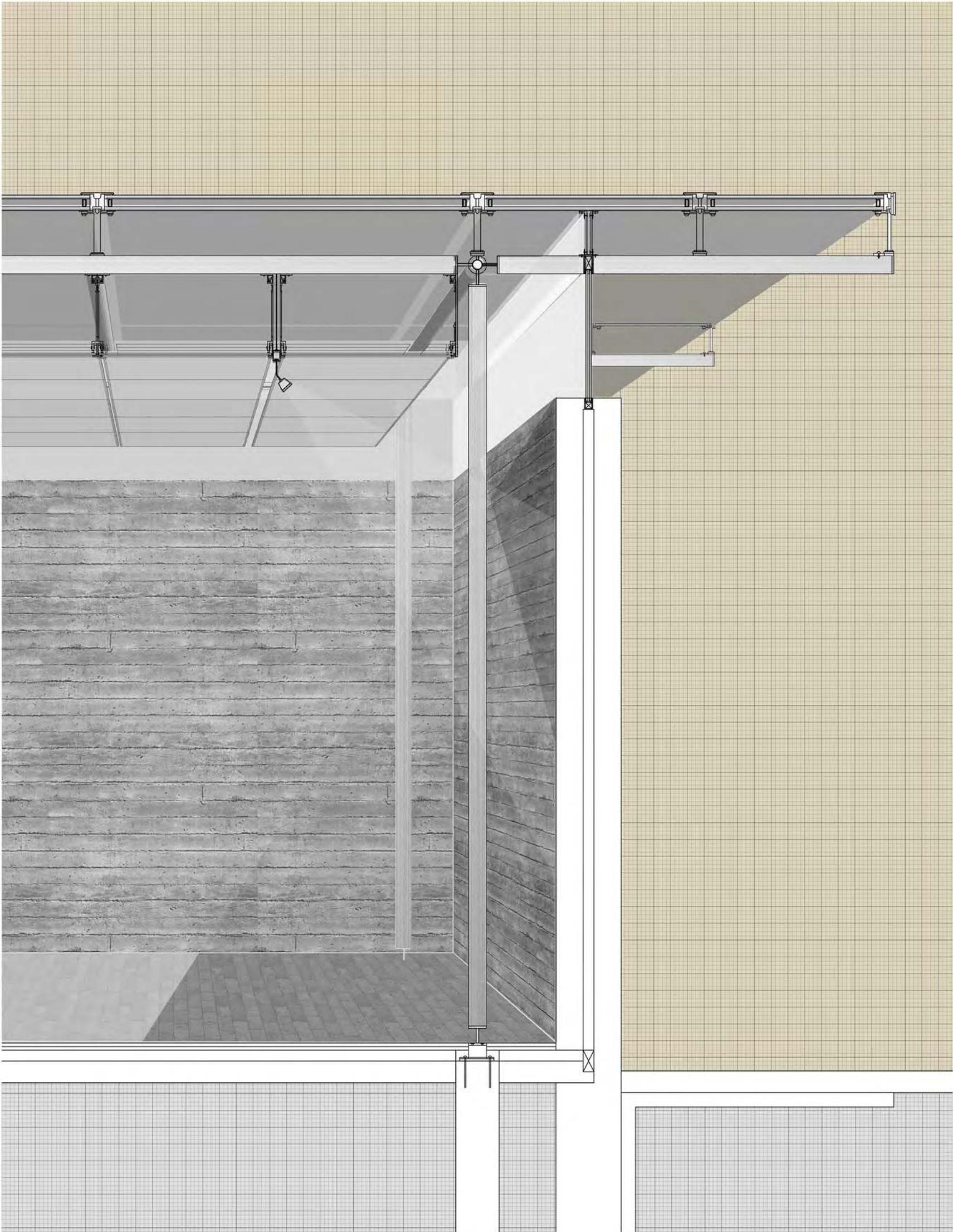
Art Gallery



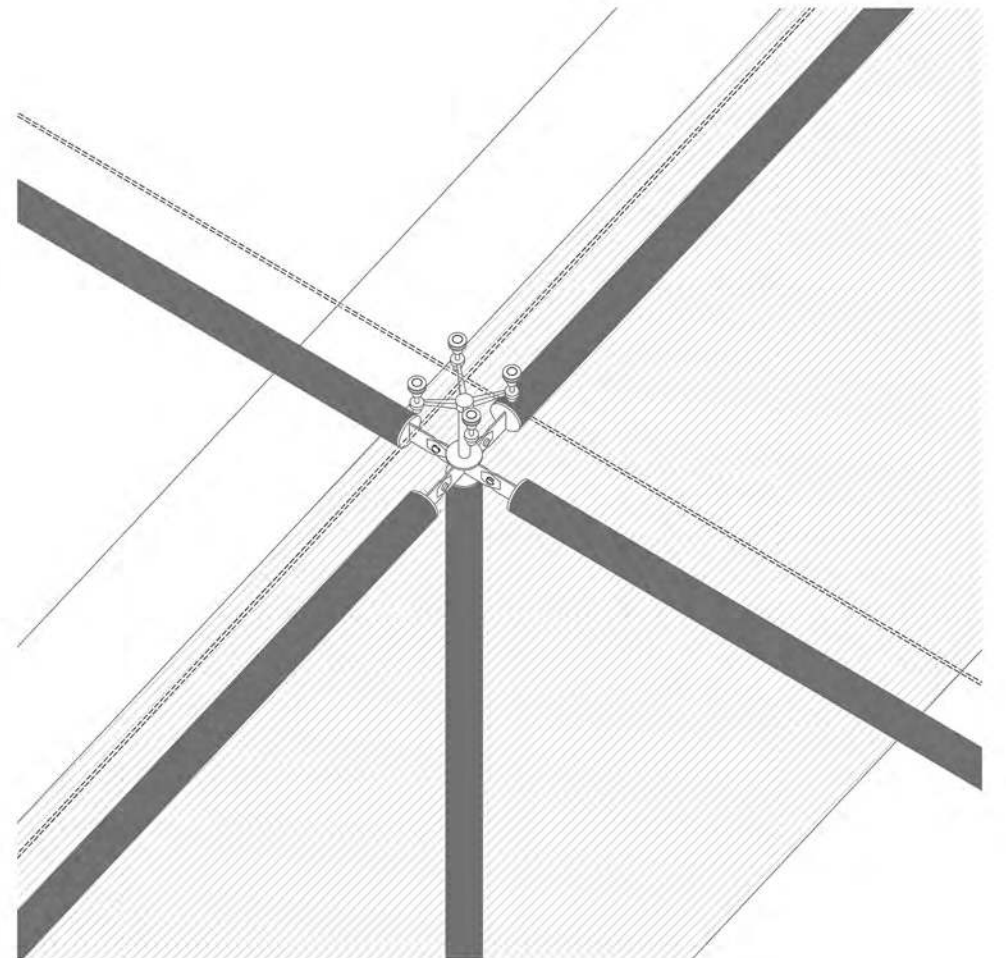
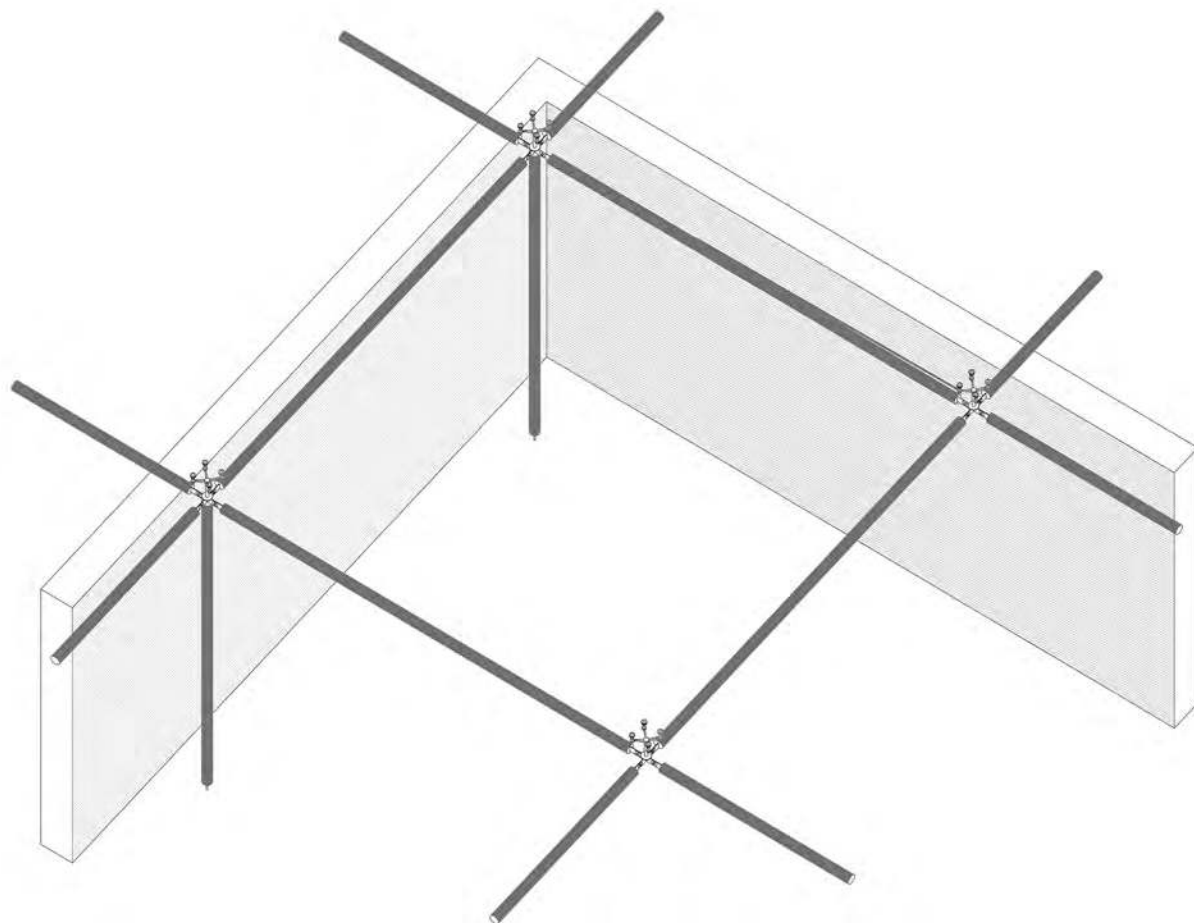
Art Gallery
Moments of Material Transition

Art Gallery
Material Palette

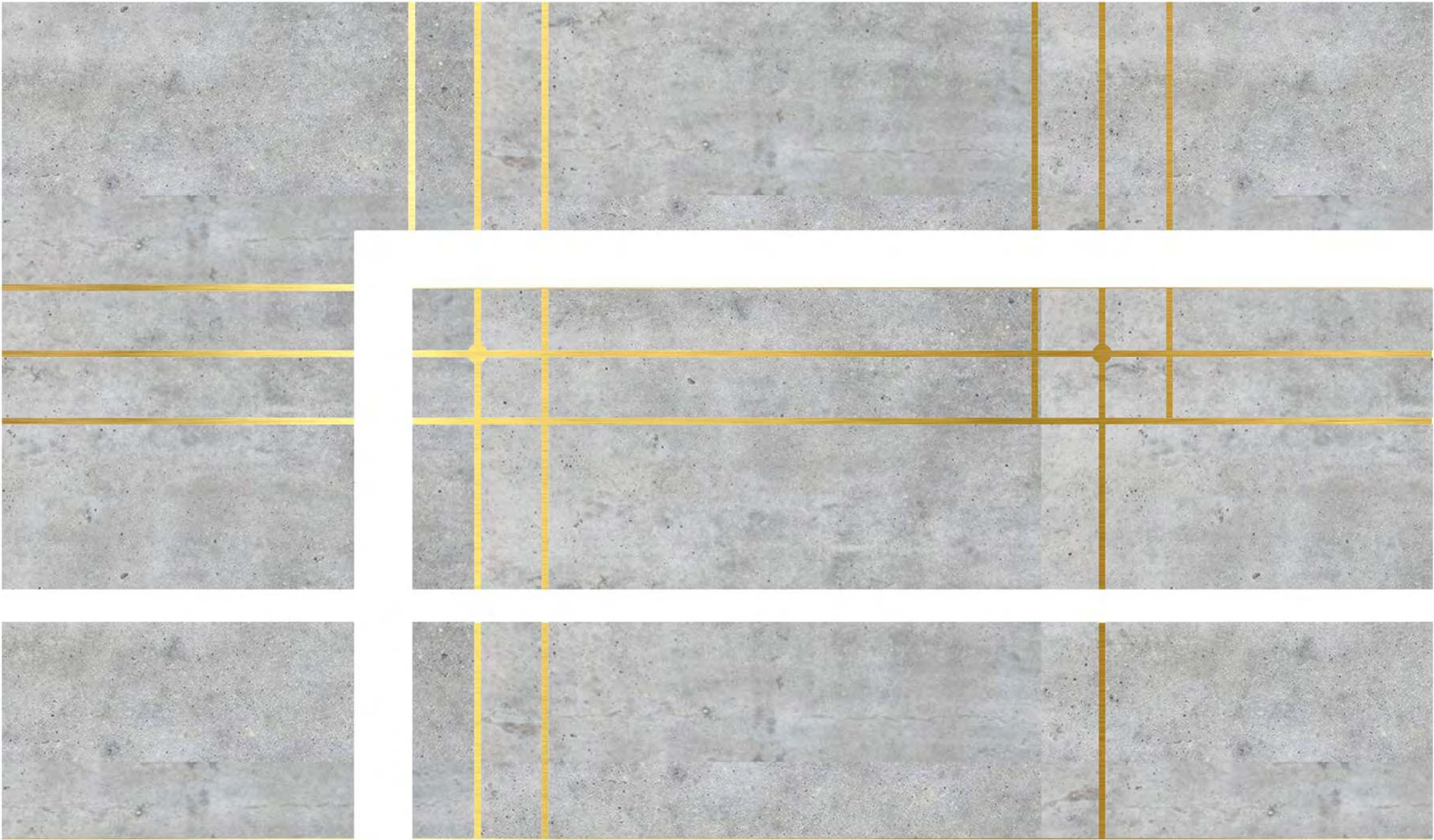




Art Gallery



Art Gallery
Making of the Moments



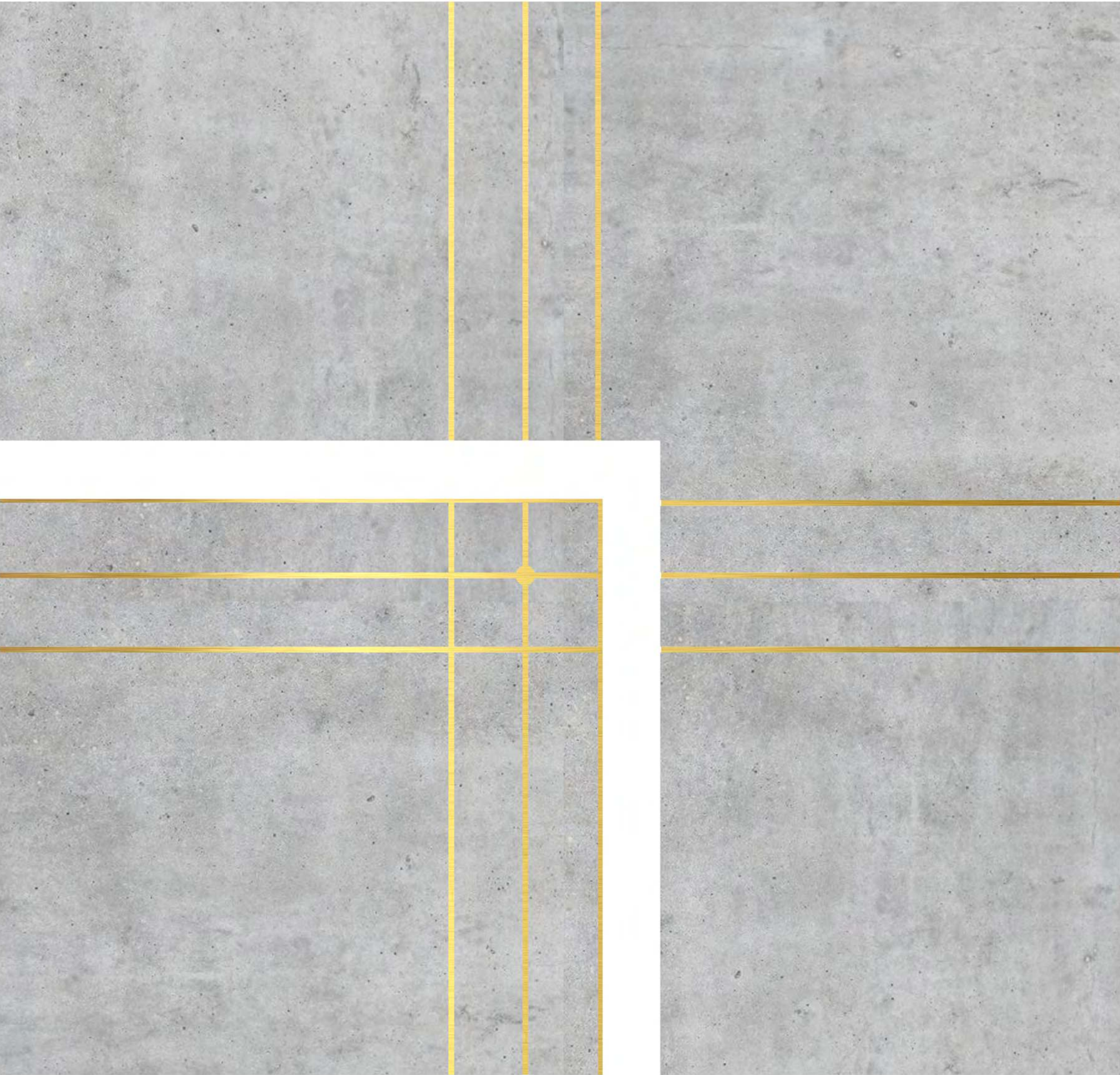
Material Intersection

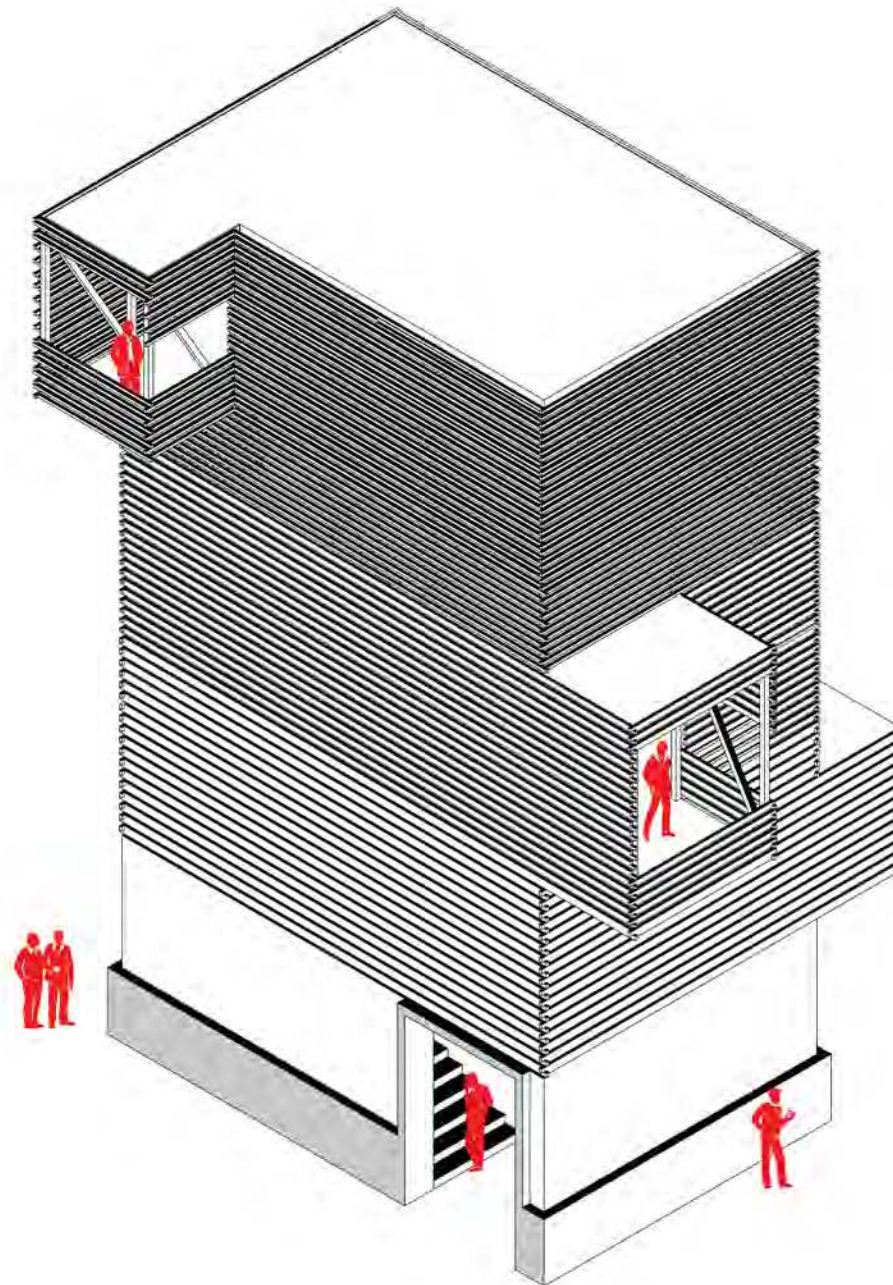
noun
a point or line common to lines or surfaces that intersect.

variable>
Cement Floor

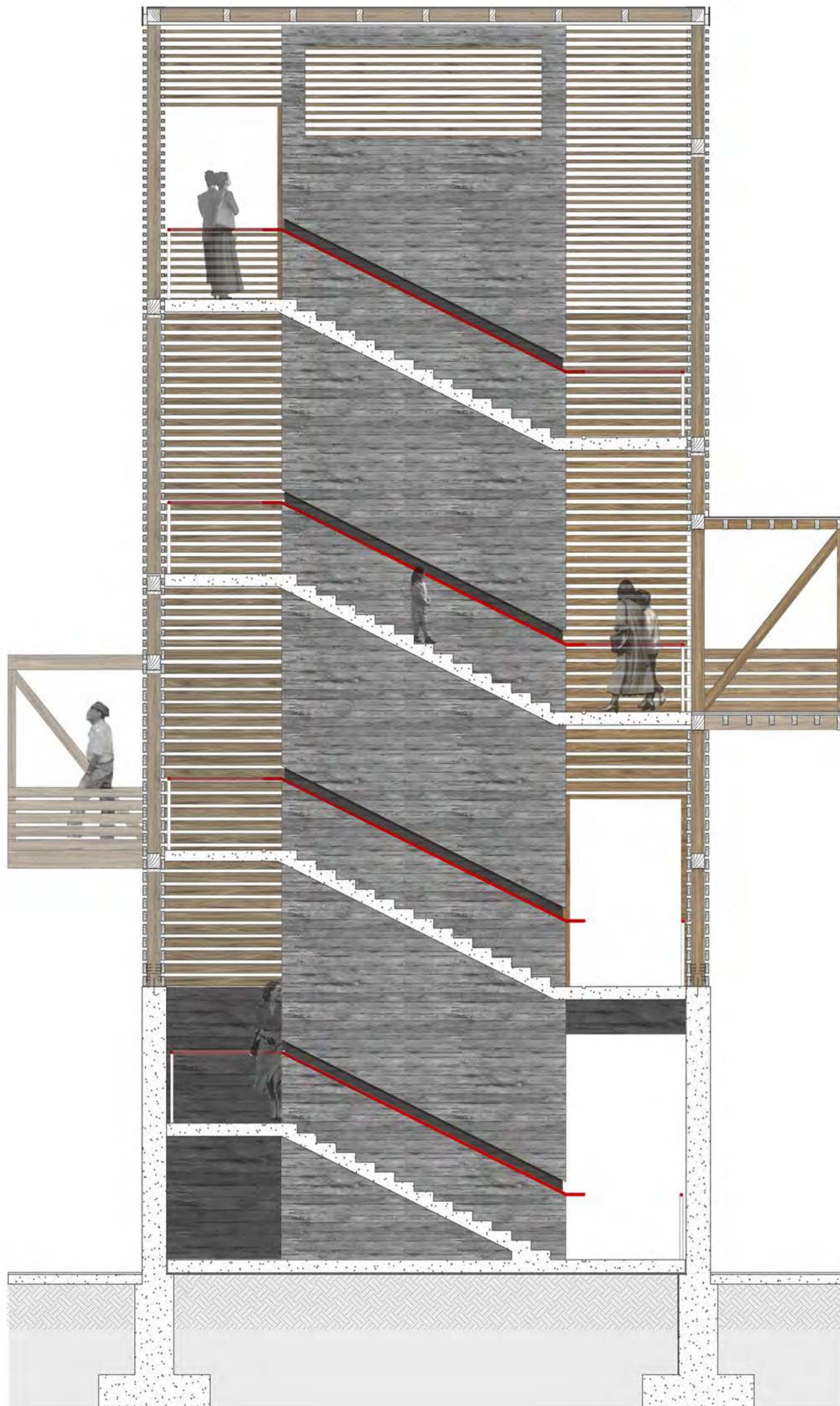
cold>
brass inlay strip

variable>
Cement Floor





Vertical Gallery



Moments of Material Transition & Porosity

Porosity

porous

adjective

having minute spaces or holes through which air may pass.

synonyms: permeable, penetrable, pervious, cellular, holey; not retentive or secure.

soft/light >

soft wood <2x2>

soft wood <2x4>

soft wood <2x6>

mild steel railing <red>

hard/heavy >

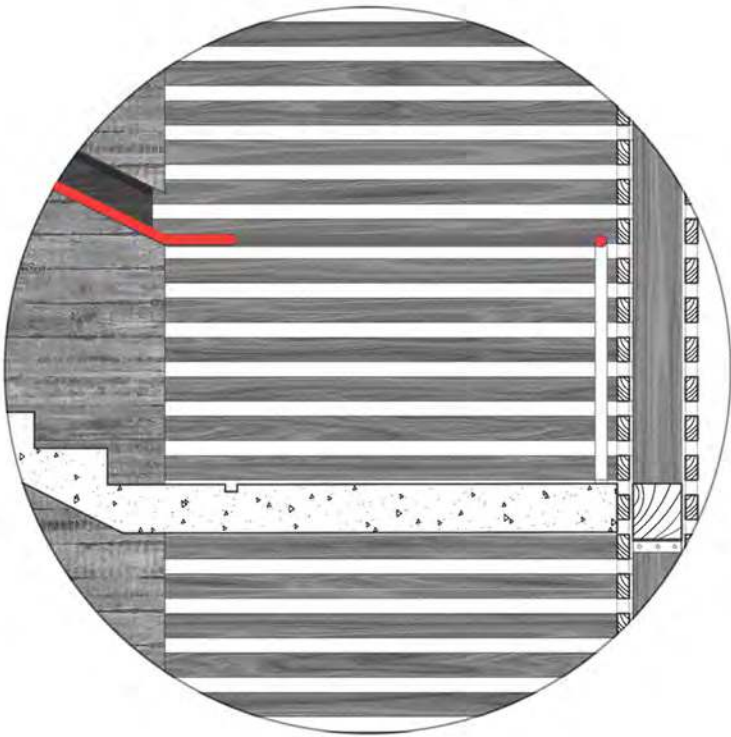
exposed concrete wall <1

concrete floor

mild steel railing <red>

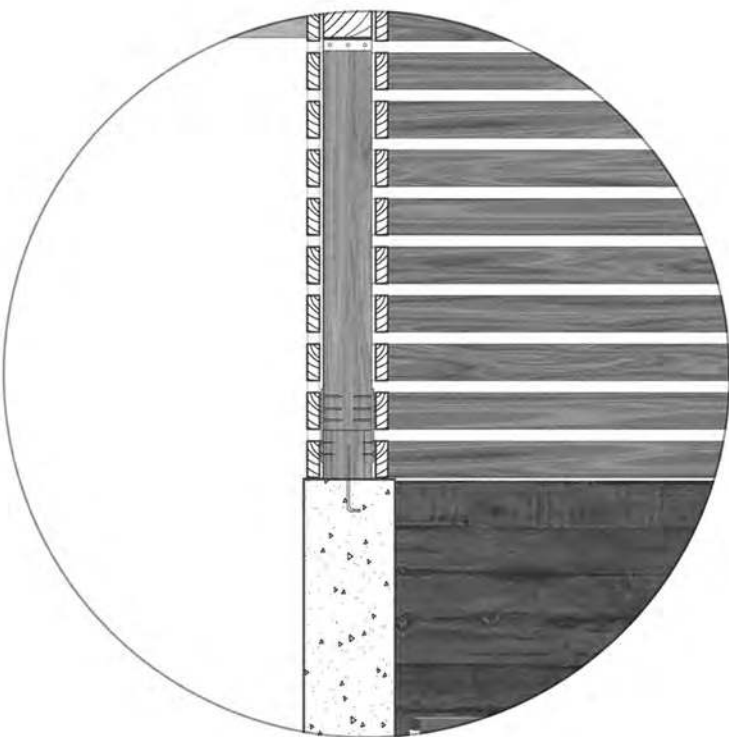
Moments of Material Transition & Porosity

baptic/acousitc/optic response



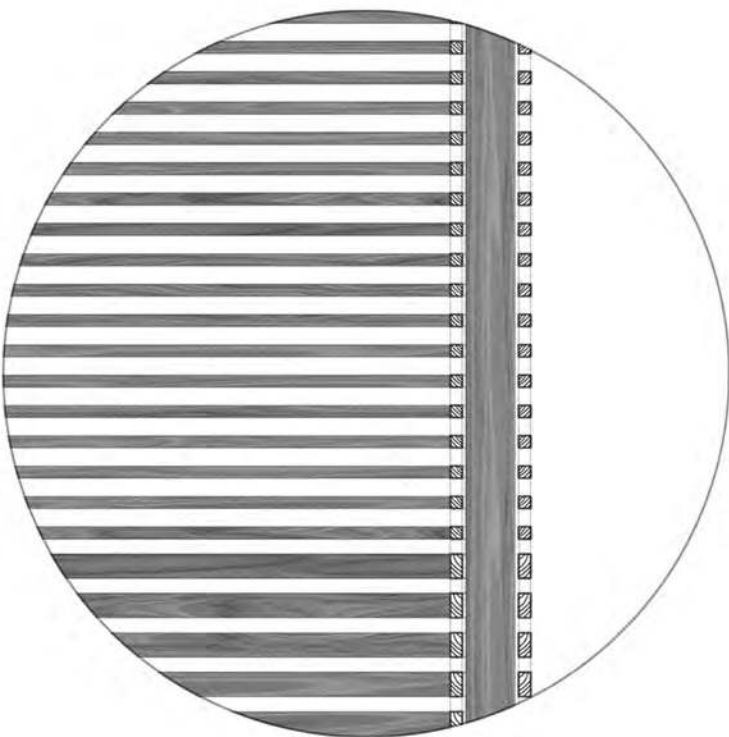
hard/heavy/cold>

mild steel railing <red>



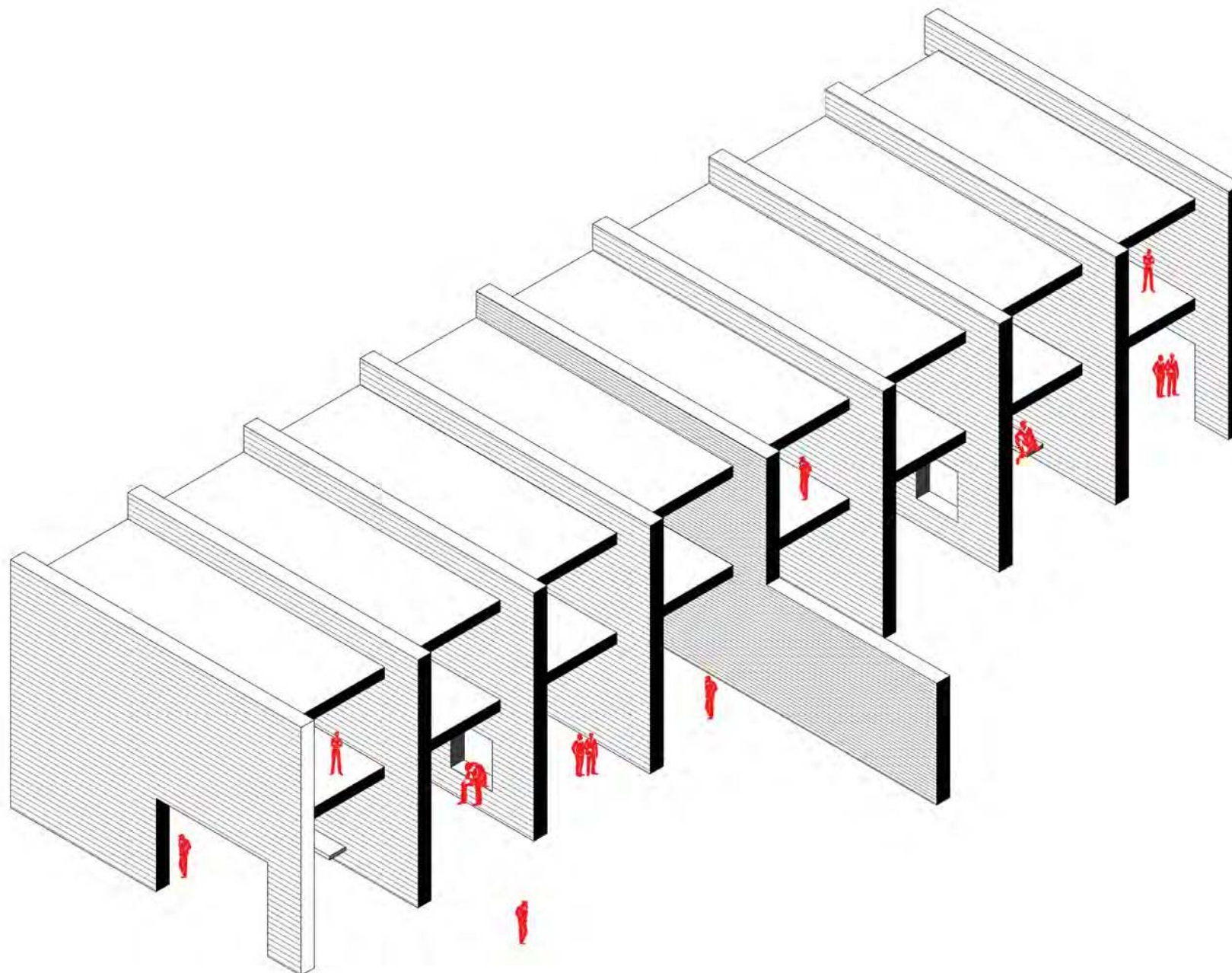
hard/heavy/variable>

exposed concrete wall <l
concrete floor

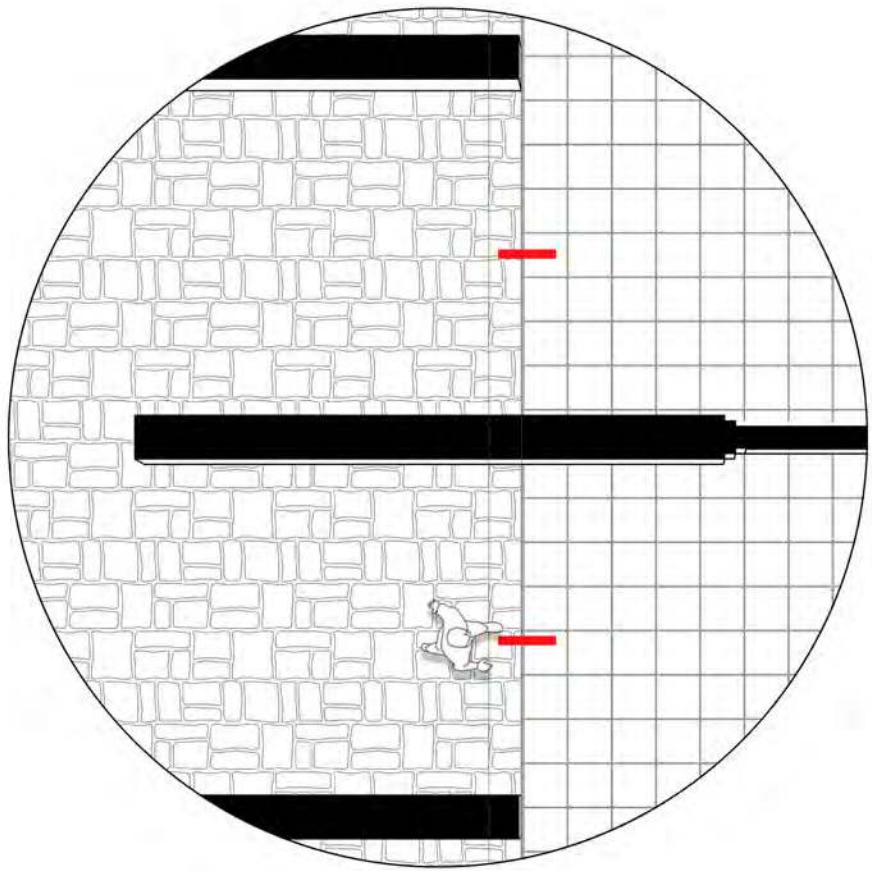
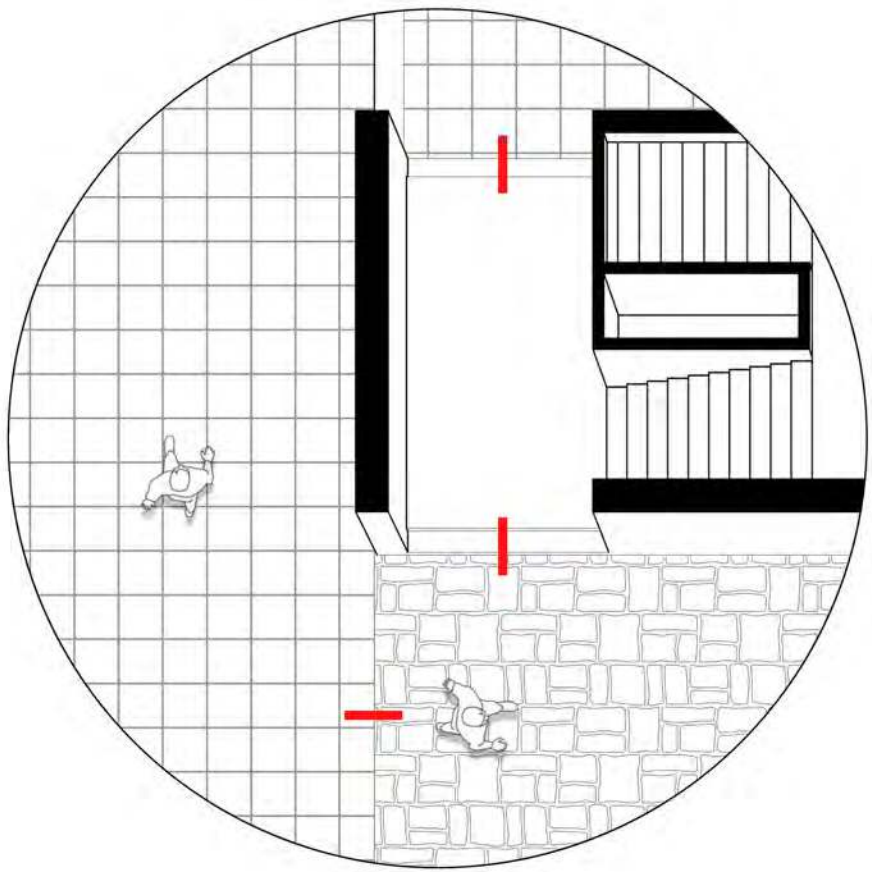
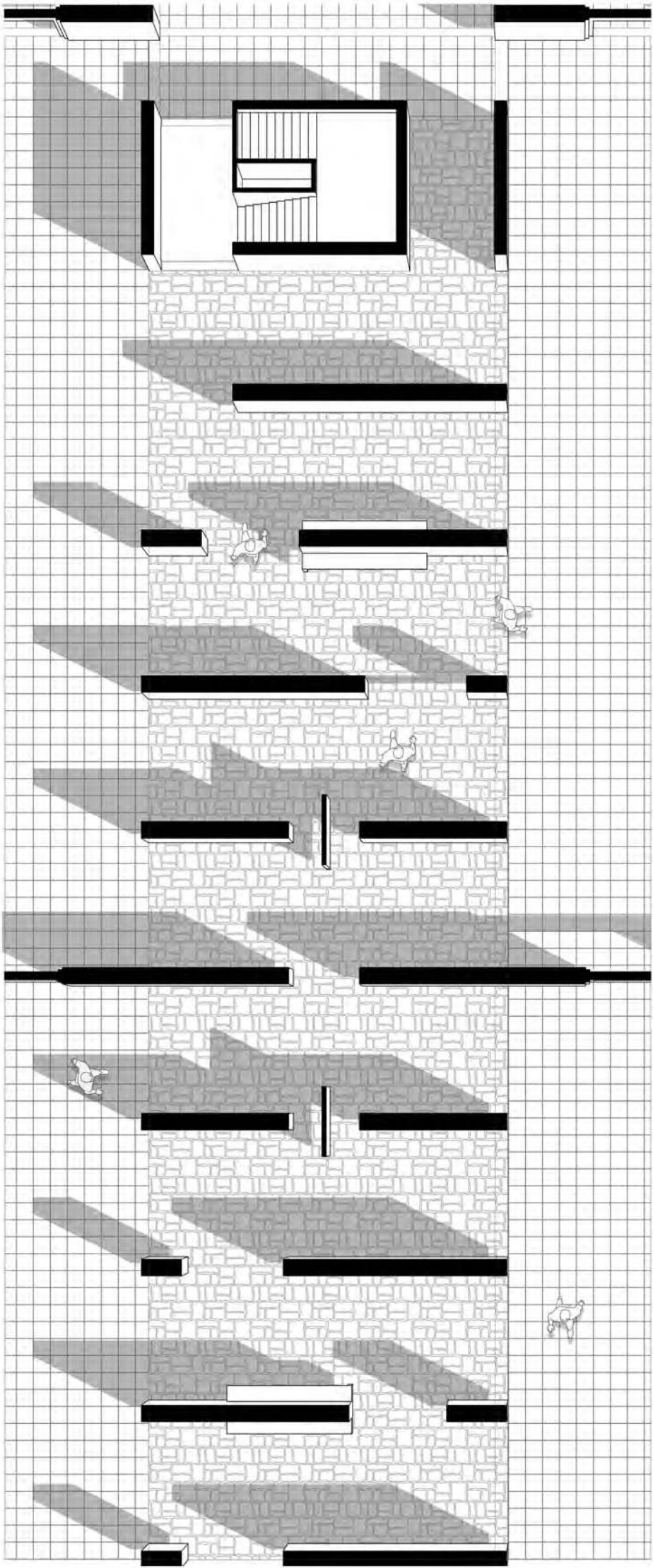


soft/light/warm>

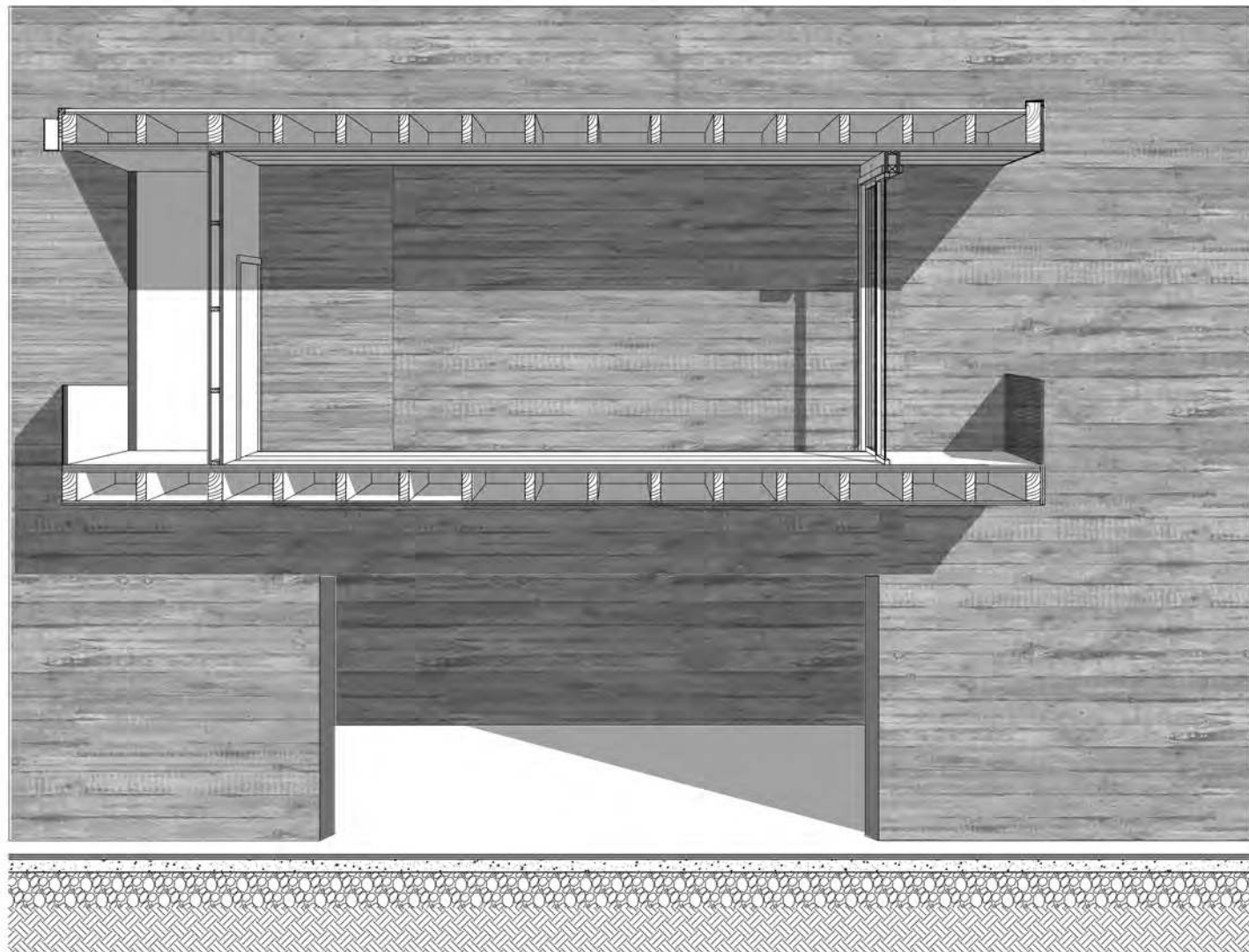
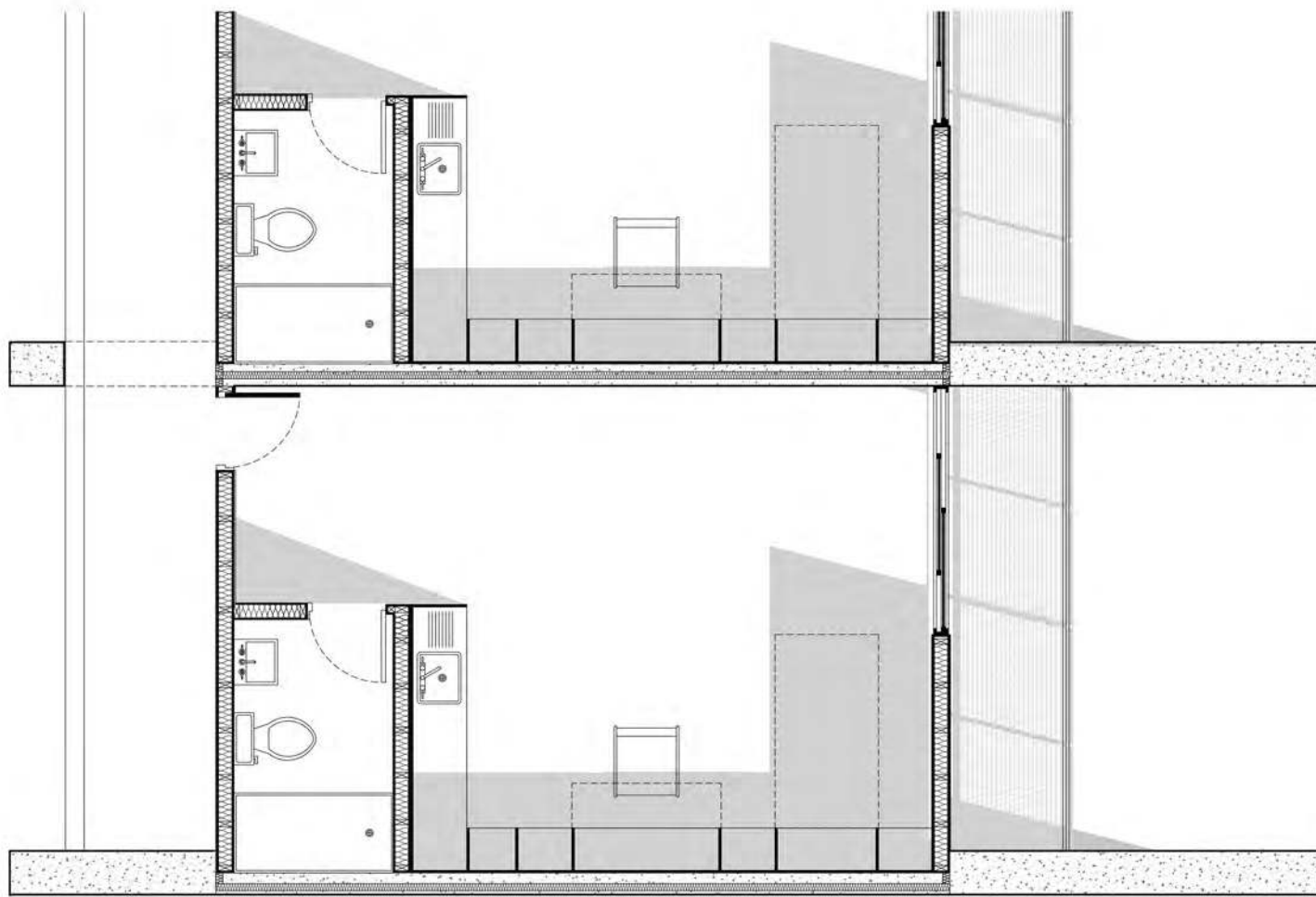
soft wood <2x2>
soft wood <2x4>
soft wood <2x6>



Sculpture Garden + Artist Live/Work Cell



Sculpture Garden
Moments of Material Transition



Artist Live/Work Cell

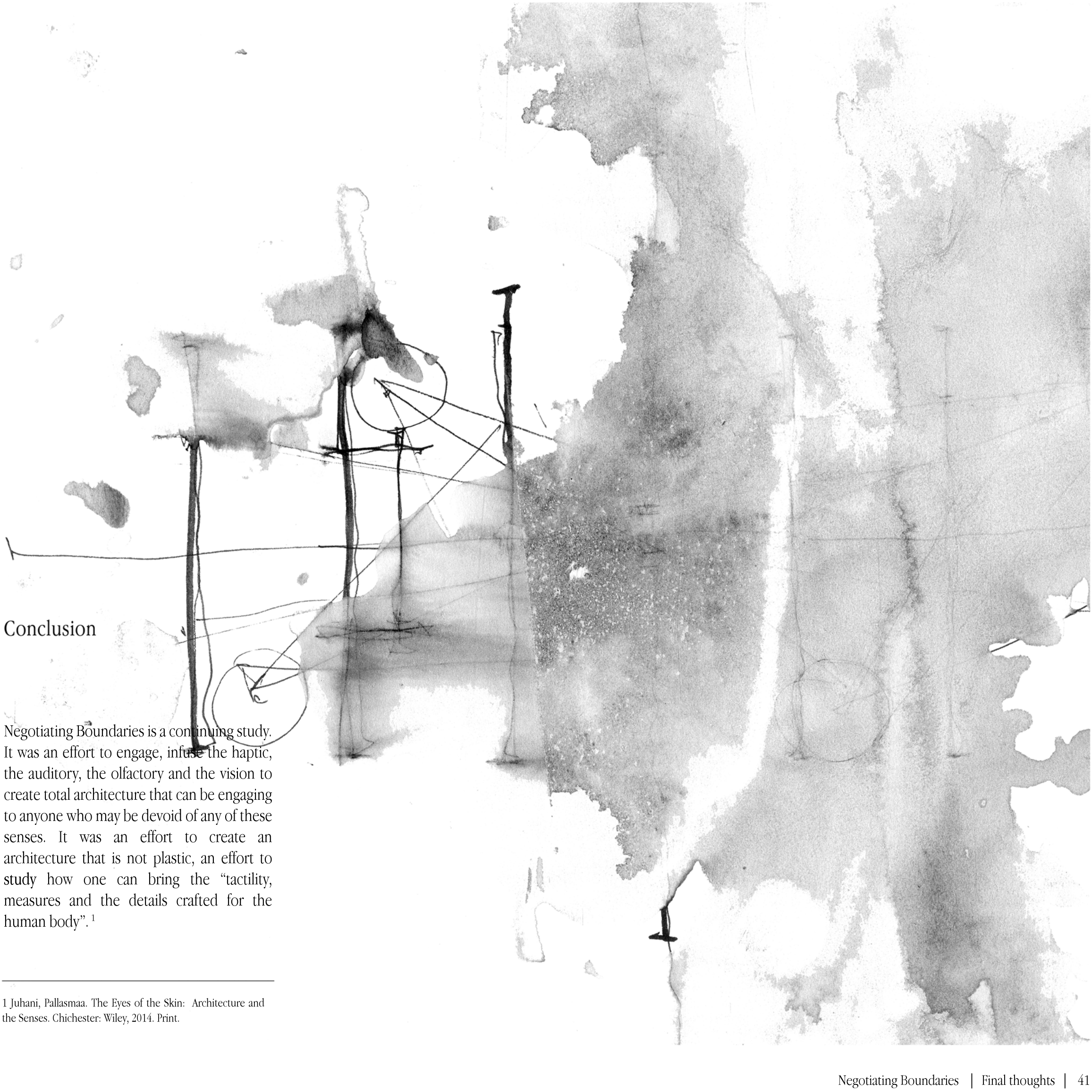


Entrance/Bathroom

Living/Working Area

Balcony

Artist Live/Work Cell



Conclusion

Negotiating Boundaries is a continuing study. It was an effort to engage, infuse the haptic, the auditory, the olfactory and the vision to create total architecture that can be engaging to anyone who may be devoid of any of these senses. It was an effort to create an architecture that is not plastic, an effort to study how one can bring the “tactility, measures and the details crafted for the human body”.¹

¹ Juhani, Pallasmaa. *The Eyes of the Skin: Architecture and the Senses*. Chichester: Wiley, 2014. Print.

Bibliography

Juhani, Pallasmaa. The Eyes of the Skin: Architecture and the Senses. Chichester: Wiley, 2014. Print.

Maurice Merleau-Ponty: Basic Writings, edited by Thomas Baldwin

Boettger, Till. Threshold Spaces: Transitions in Architecture: Analysis and Design Tools. Basel: BIRKHÄUSER, 2014. Print.

Photo Credits

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Fig. 1.0
Brion Cemetery; Photo © Nuno Cera

Fig. 1.1
Brion Cemetery; Francesco Maria Gabriele Vozza

Fig. 1.2
Brion Cemetery; whatisdesign_scarpa; google

Fig. 1.3
Source unknown

Fig. 1.4
Source unknown

Fig. 1.5
Kimbell Art Museum : The Gilded Owl

Fig. 1.6
Bruder Klaus Chapel; © Samuel Ludwig www.samueltludwig.com

Fig. 1.7
Peter Zumthor - Bruder Klaus chapel, Wachendorf 2007. photos by Walter Mair.

Fig. 1.8
Peter Zumthor - Bruder Klaus chapel,© Aldo Amoretti, Courtesy of Atelier Peter Zumthor and Partner

Vita

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AIA Virginia Prize - Best of School, 2016

American Institute of Architects
Virginia

NDTV Design & Architecture Awards, 2015

Jury Commendation for my undergraduate thesis

Best Academic Project - Undergraduate Thesis, 2014

Architecture & Design Summit Awards
Economic Times, Times of India